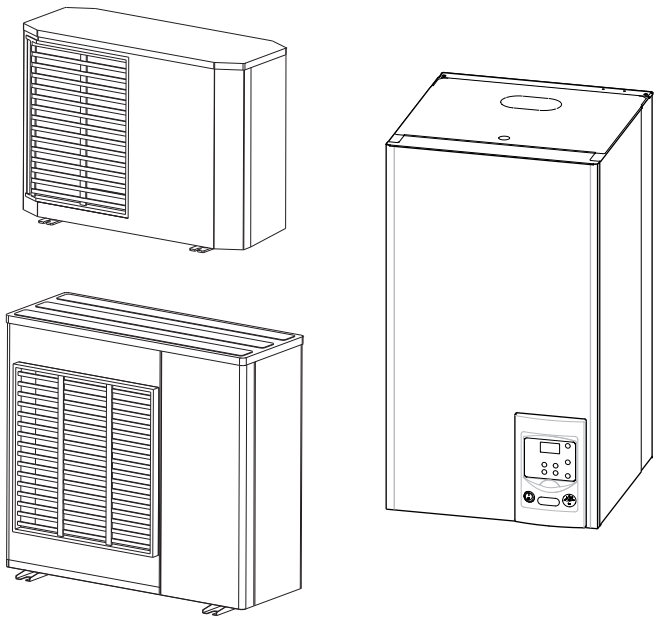
alféa Evolution

Heat pump air/water split single service

Outdoor unit	Hydraulic unit
☐ AOYA 18 LALL	☐ 023140
☐ AOYA 24 LALL	☐ 023146
☐ AOYA 30 LBTL	



atlantic

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FR NL EN ☐ ☐

Installation and operating manual

intended for professionals

To be saved for future consultation

www.atlantic.fr

Subject to modifications without notice.
Non contractual document.

☞ **This device requires for its installation, the intervention of qualified personnel with a certificate of capacity for handling refrigerants.**

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Packing list

Heat pump		*Outdoor unit*		*Hydraulic unit*	
Model	*Code*	*Model*	*Code*	*Model*	*Code*
alféa Evolution 5	522644	AOYA 18 LALL	700718	alféa Evolution 5	023146
alféa Evolution 6	522645	AOYA 18 LALL	700718	alféa Evolution 6-10	023140
alféa Evolution 8	522646	AOYA 24 LALL	700724		
alféa Evolution 10	522647	AOYA 30 LBTL	700730		

Optional equipment

- ***DHW kit*** (code. 073991)
  for connecting a DHW tank
  (with built-in electrical back-ups).
- ***Boiler connection kit*** (code 073989)
  for connecting a boiler to the heat pump.
- ***Electrical back-ups kit*** (code 073985).
- ***Room thermostat T37*** (code 075308),
  Room thermostat T55 (code 073951),
  Wireless room thermostat T58 (code 075313)
  for correcting the ambient temperature.
- ***Remote control T75*** (code 073954),
  Wireless remote control T78 (code 074061)
  for correcting the ambient temperature and
  programming the heat pump.
- ***Anti-vibration blocks*** (code 523574).
- ***White PVC floor support*** (code 809532).
- ***High flow rate circulating pump kit*** (code 074067)
  for the installation of 1 circuit floor heating.

Scope of application

This heat pump provides:

- Heating in winter,
- Production of domestic hot water* (provided that combined with a DHW tank).
- Installation with boiler connection* as a supplementary heating for the coldest days.

or

- the addition of electrical back-ups, for extra heating on the coldest days.

* : These options require the use of additional kits (see para "Optional equipment").

1 Description of the unit

1.1 Package

- **1 package**: Outdoor unit.
- **1 package**: Hydraulic unit and outdoor sensor.

1.2 Definitions

- Split: The heat pump consists of two elements (an outdoor unit for outdoor and a hydraulic unit for inside the dwelling).
- Air/water: The surrounding air is the energy source. This energy is transmitted to the water in the heating circuit by the heat pump.
- Inverter: The fan and compressor speeds are modulated according to the heating requirements. This technology enables you to save on energy and operate on a single-phase power supply, whatever the heat pump's output, by avoiding heavy intensities on start-up.
- COP (coefficient of performance): This is the relationship between the energy transmitted to the heating circuit and electrical energy consumed.

1.3 Specifications

Designation model		alféa Evolution	5	6	8	10
Nominal heating performances (outdoor temperature/ initial temperature)						
Heat output						
+7 °C / +35 °C - Floor heating system	kW		4,70	6,25	7,80	9,75
-7 °C / +35 °C - Floor heating system	kW		4,70	5,49	6,65	8,10
+7 °C / +45 °C - Low temperature radiator	kW		4,09	5,29	6,08	7,973
-7 °C / +45 °C - Low temperature radiator	kW		3,81	5,00	5,78	6,96
Power absorbed						
+7 °C / +35 °C - Floor heating system	kW		1,10	1,56	2,00	2,50
-7 °C / +35 °C - Floor heating system	kW		1,81	2,29	2,59	3,52
+7 °C / +45 °C - Low temperature radiator	kW		1,26	1,64	2,02	2,61
-7 °C / +45 °C - Low temperature radiator	kW		1,67	2,37	2,67	3,40
Coefficient of performance (COP)	(+7 °C / + 35 °C)		4,25	4,00	3,90	3,90
Electrical characteristics						
Supply voltage (50 HZ)	V		230			
Maximum current for appliance	A		15	15	15	17
Nominal current	A		8,3	8,3	10,6	11,7
Maximum current of the electrical back-ups	A		13,05 / 26,1			
Power of the electrical back-ups (option)	kW		ajustable 3 ou 6 kW			
Real power absorbed						
- By the fan	W		54	54	65	103
- By the circulation pump	W		45			
Maximum power absorption by the outdoor unit	W		3450	3450	3450	3910
Hydraulic circuit						
Maximum operating pressure	bar		3			
Hydraulic system flow rate 4°C<Δt<8°C (nominal conditions)						
- minimum	l/h		540	600	860	1000
- maximum	l/h		1100	1400	1700	2100
Various						
Weight of outdoor unit	kg		40	40	44	64
Noise level at 1 m [1] (hydraulic unit)	dB		39			
Sound power level according to EN 12102 [2] (hydr. unit)	dB		46			
Noise level at 5 m [1] (outdoor unit)	dB		39	39	40	41
Sound power level according to EN 12102 [2] (outdoor unit)	dB		65	66	67	68
Weight of hydraulic unit (empty/full of water)	kg		41 / 57			
Water capacity of the hydraulic unit	l		16			
Heating system operating limits						
Outdoor temperature mini/maxi	°C		-15 / +24			
Initial max. heating water temperature						
- Floor heating system	°C		45			
- Low temperature radiator	°C		52			
Flow min. heating water temperature	°C		8			
Refrigeration circuit						
Diameter of gas pipes	inches		1/2	1/2	5/8	5/8
Diameter of liquid pipes	inches		1/4	1/4	1/4	3/8
Factory charge of refrigerant R410A [3]	g		1250	1250	1700	2100
Maximum operating pressure	bar		41,5			
Minimum length of pipess	m		5			
Maximum length of pipes [4]	m		15	15	15	20
Maximum level difference	m		15	15	15	20

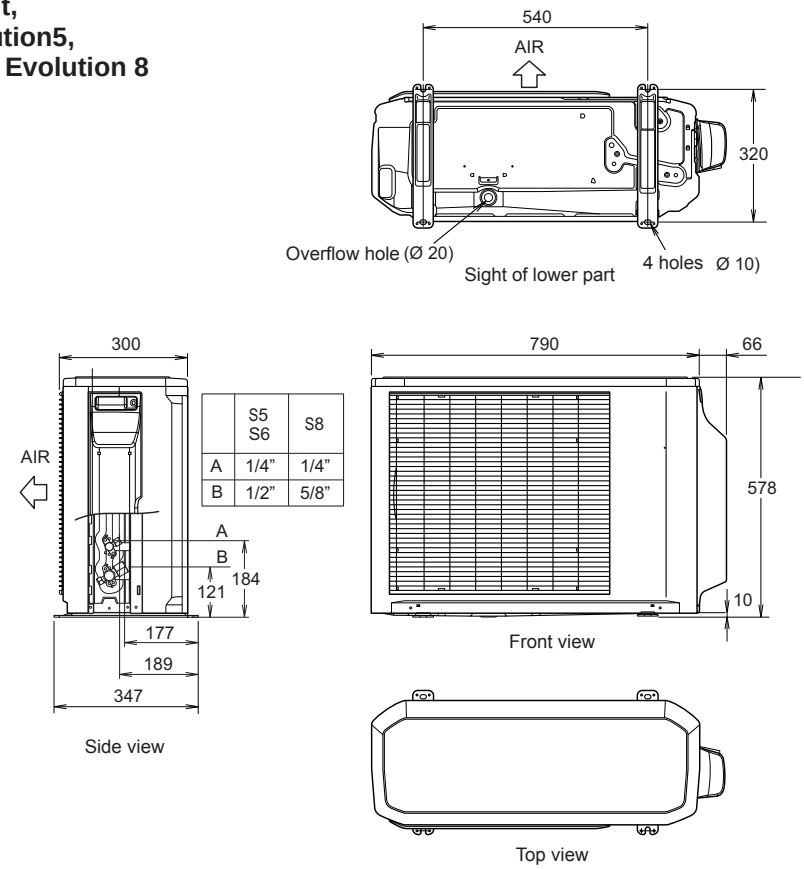
[1] Sound pressure level in (x)m of the device, 1,5m of the ground, the open field.

[2] The sound power level is a laboratory measure of the emitted sound power but contrary to the noise level, it doesn't correspond to the measure of the felt.

[3] Refrigerant R410A (as per the standard EN 378.1).

[4] Factory charge of refrigerant R410A.

☞ **Outdoor unit,**
Model Evolution5,
Evolution 6, Evolution 8



☞ **Outdoor unit,**
Model Evolution 10

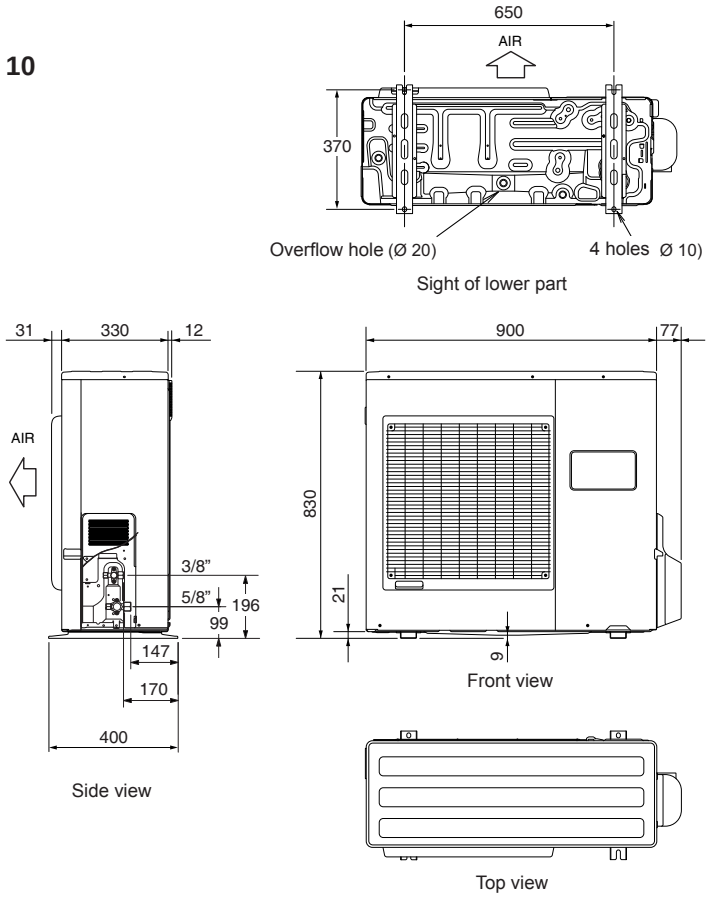


figure 1 - Dimensions in mm

Hydraulic unit

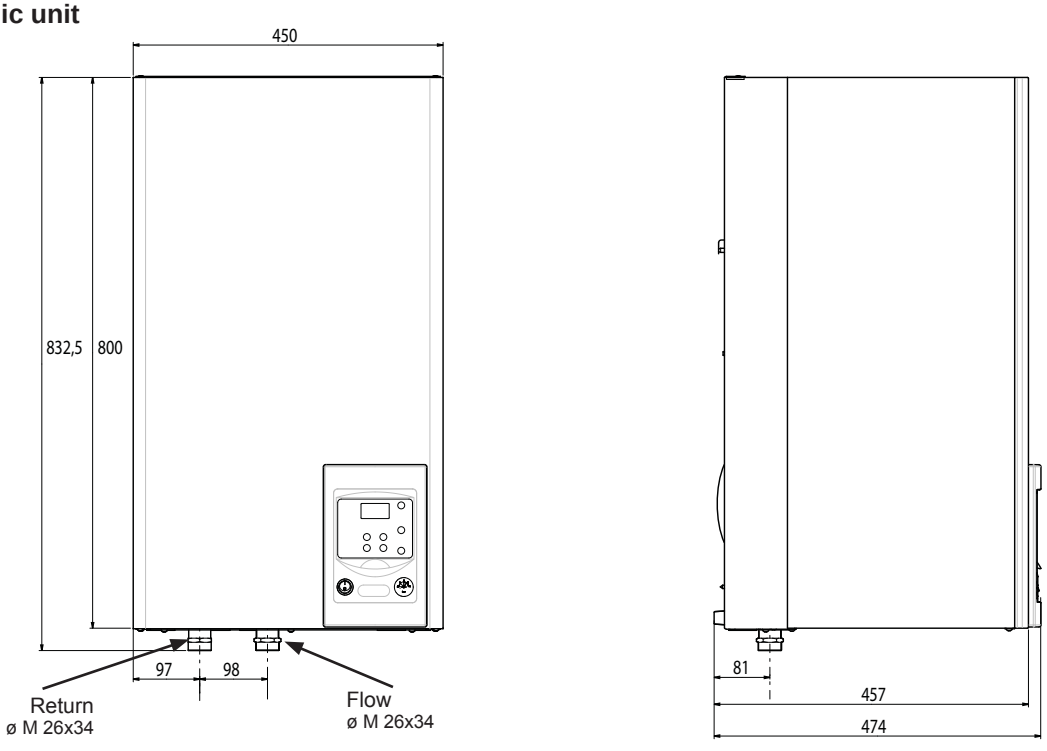


figure 2 - Dimensions in mm

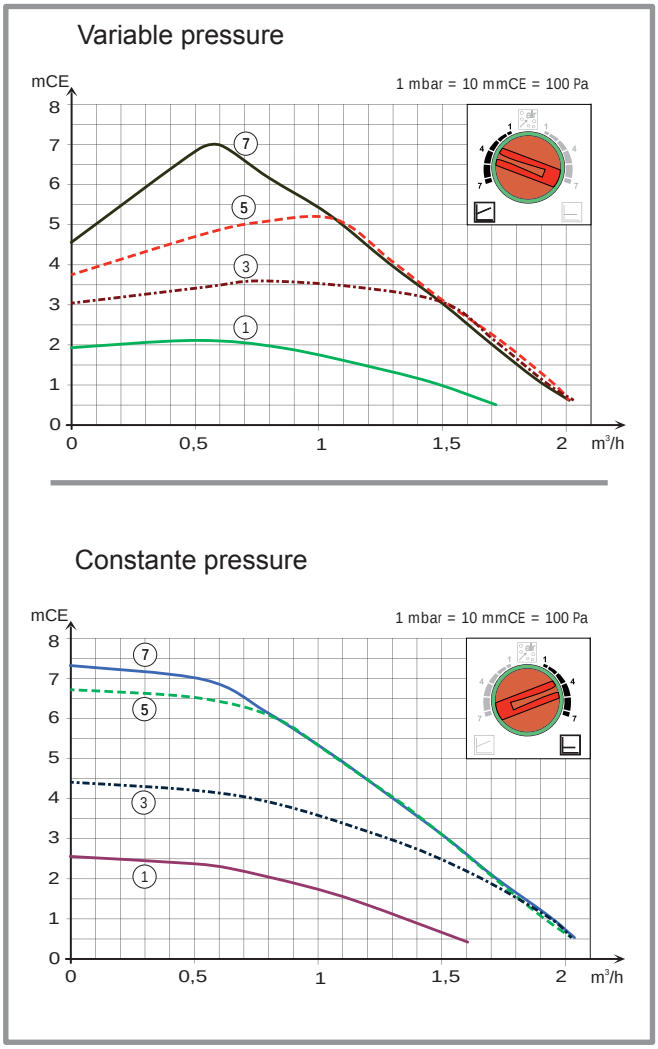


figure 3 - Hydraulic pressures and flow rates available

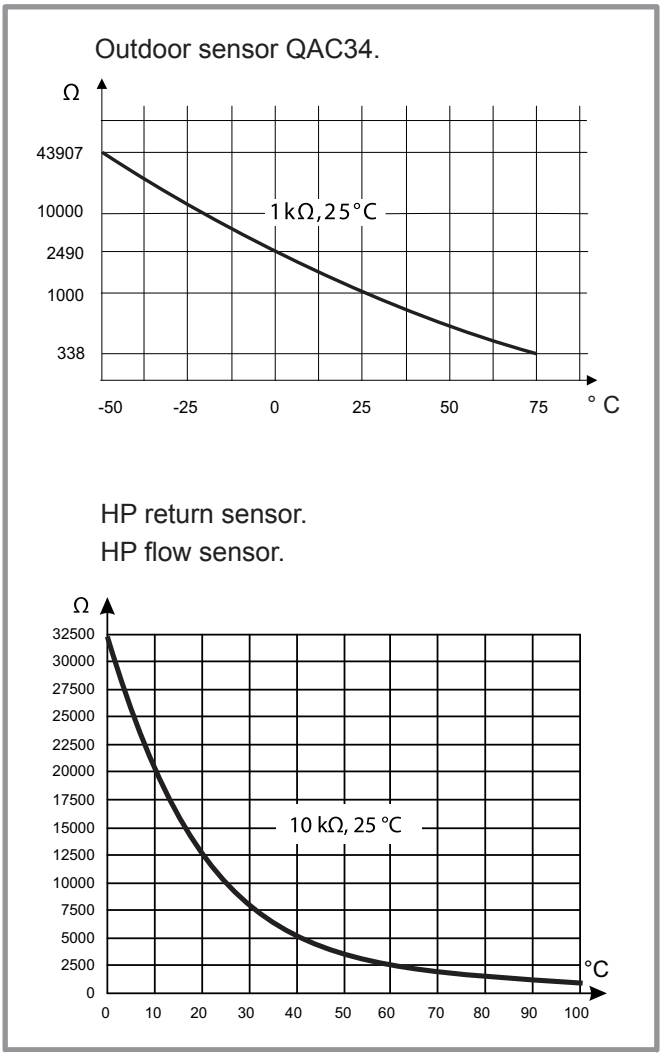


figure 4 - Ohmic values of the sensors (Hydraulic unit)

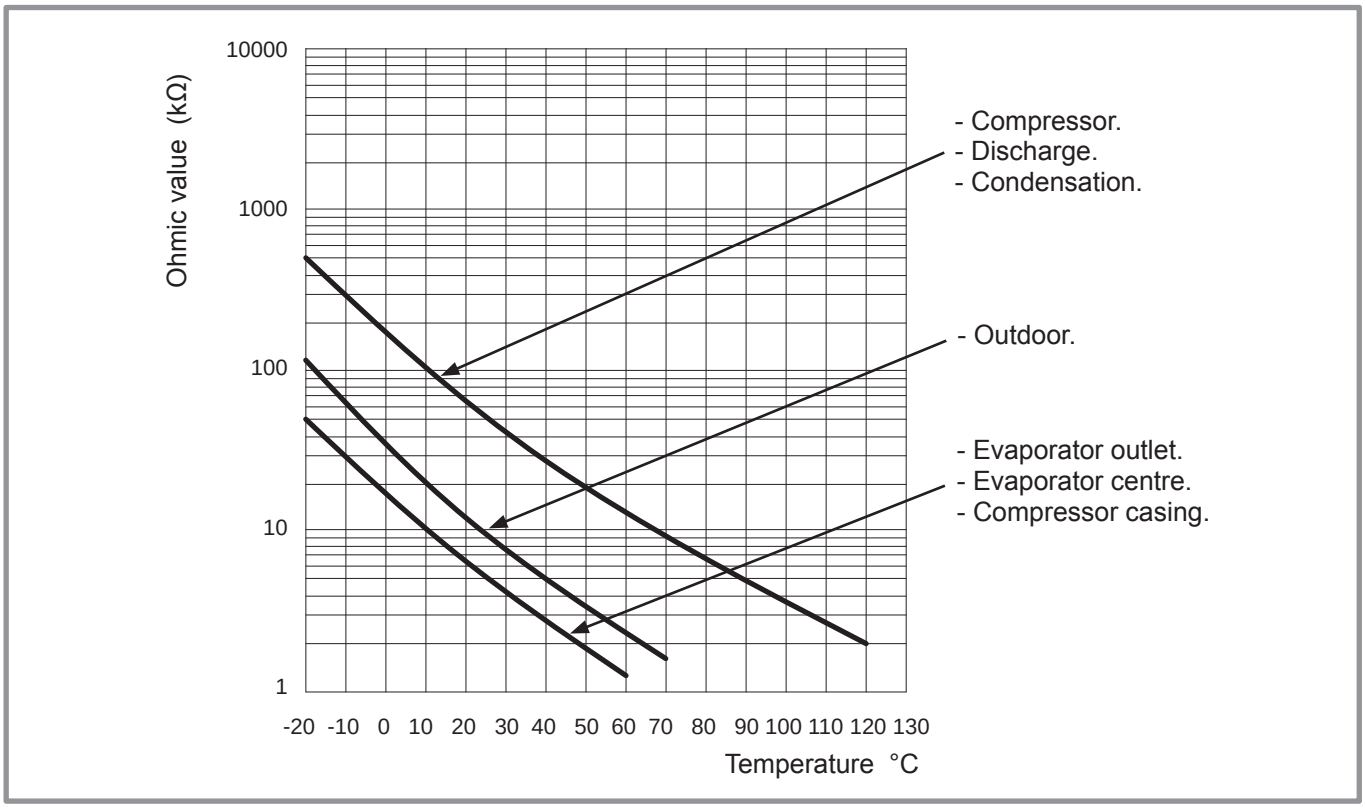
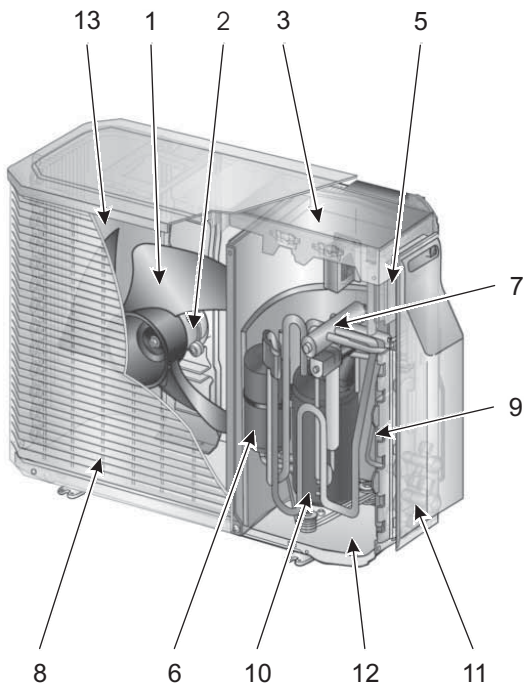


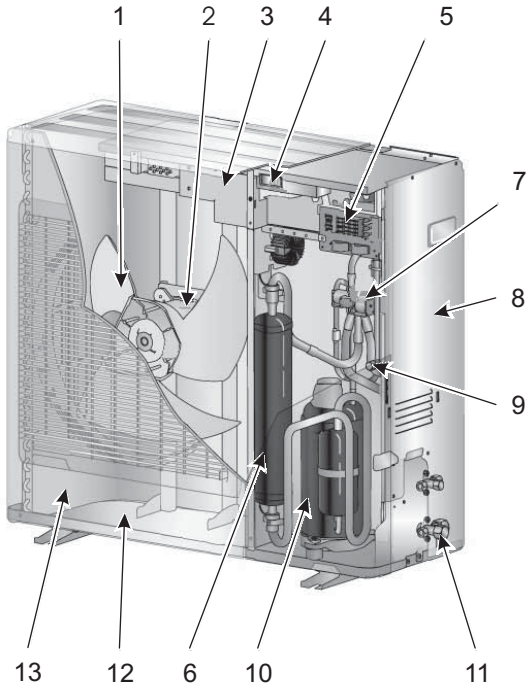
figure 5 - Ohmic values of the sensors (Outdoor unit)

1.4 Description

☞ **Model Evolution 5, Evolution 6, Evolution 8**



☞ **Model Evolution 10**



Legend:

1 - Low-noise, high-output propeller fan.
2 - Electric variable speed "inverter" motor.
3 - "Inverter" control module.
4 - Vacuum start (pump down) and control light
5 - Connection terminal blocks (power and interconnection).
6 - Refrigerant accumulator bottle.
7 - Cycle reversing valve.
8 - Anti-corrosion treated bodywork.
9 - Electronic expansion valve.
10 - Noise and temperature insulated "inverter" compressor with liquid injection port.
11 - Refrigeration connection valves (flared connectors) with protective caps.
12 - Holding tank with condensate drain hole.
13 - High-performance exchange surface evaporator; anti-corrosion treated hydrophilic aluminium fins and grooved copper tubes.

figure 6 - Outdoor unit components

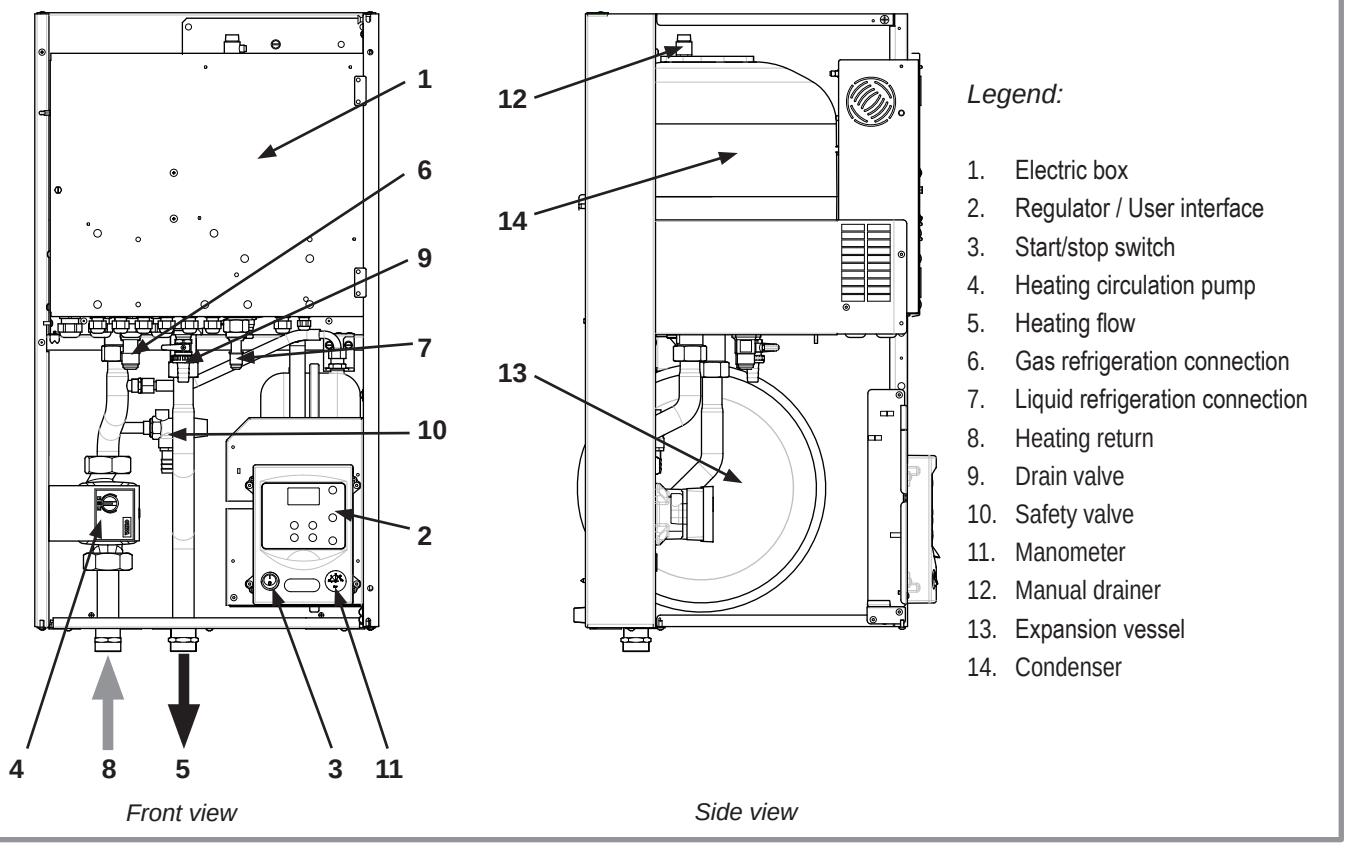


figure 7 - Hydraulic unit components

1.5 Operating principle

The heat pump transmits the energy contained in the surrounding air into the dwelling to be heated.

The heat pump consists of four main elements, in which a refrigerant fluid (R410A) circulates.

- In the evaporator (reference **13**, figure 6, page 9) : The energy is taken from the surrounding air and is transmitted to the refrigerant. Because it has a low boiling point, it changes from the liquid state to the vapour state, even in cold weather (down to -15 °C outdoor temperature).
- In the compressor (reference **10**, figure 6, page 9) : The vaporised refrigerant brought to high pressure and takes on more calories.
- In the condenser (reference **14**, figure 7, page 10) : The energy in the refrigerant is transmitted to the heating circuit. The refrigerant returns to liquid state.
- In the expansion valve (reference **9**, figure 6, page 9) : The liquefied refrigerant is brought back to low pressure and returns to its initial temperature and pressure.

The heat pump is equipped with a controller, which controls the room temperature based on the outdoor temperature measurement and governed by the temperature control. The room thermostat (option) provides a corrective action for the temperature control.

The heat pump is equipped with an electrical back-up system, which is designed to provide additional heat during the coldest periods.

• Regulation functions

- The heating circuit's initial temperature is controlled by the temperature control.
- The power of the outdoor unit is modulated according to flow heating temperature via the "inverter" compressor.
- Control of the electric back-up heating (option).
- The daily timer program enables you to define the periods for comfortable or reduced ambient temperature.
- Summer/winter mode switchover is automatic.
- Control of the supplementary boiler* (option).
- The room thermostat* provides a corrective action for the temperature control.
- Domestic hot water* : Heating time programme, control of the operation of the DHW circulation pump.

* If the heat pump is equipped with optional equipment and the associated kits.

• Protection functions

- Anti-legionella cycle for domestic hot water.
- Frost protection : Frost protection cuts in if the low-temperature point of the heating circuit falls below 5 °C.

• Domestic hot water (DHW) operating principle

Two domestic hot water (DHW) temperatures can be parametered: nominal temperature (see user interface reference **2**, figure 32, page 32) and reduced temperature (line 65 to 40 °C).

The default heat pump program is set for nominal temperature from 0.00 to 5.00h and for reduced temperature for the rest of the day, this optimizes electrical consumption while ensuring comfortable availability of hot water.

Setting for reduced temperature can be useful to prevent the DHW from switching on too often and for too long during the day.

The production of domestic hot water (DHW) is triggered when the temperature in the tank falls 7°C below the set temperature.

The heat pump produces the domestic hot water, which is then additively heated, if required, by electrical back-up heating inside the tank.

To ensure a DHW setting over 45°C, the electrical back-up heating or the boiler must be left on.

Depending on how the parameter 83 is set, nominal temperature can be reached 24h/day or only at night or depending on the heat pump programme.

The production of DHW takes priority over heating; nevertheless the production of DHW is controlled by cycles that control the times assigned to the heating and the production of DHW in the event of simultaneous demand.

A function to switch from "reduced" to "nominal" is provided on the front of the user interface (see reference **5**, figure 32, page 32).

Anti-legionella cycles can be programmed.

• Fan convectors with integrated control system

Do not use a room sensor in the area.

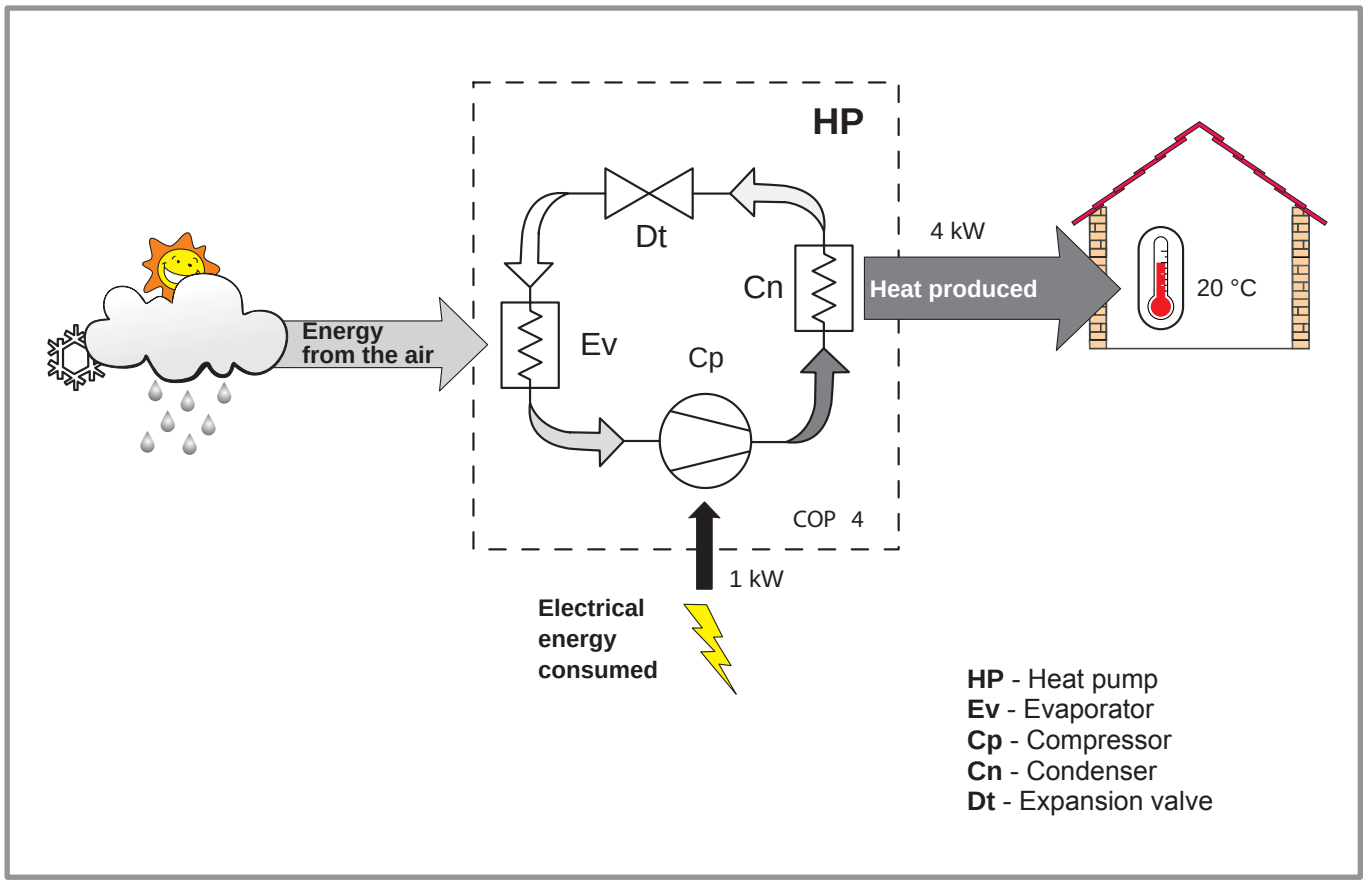


figure 8 - Heat pump operating principle

2 Installation

2.1 Regulation installation and maintenance conditions

The appliance must be installed and the maintained by an approved professional in accordance with the prevailing regulations and code of practice, in particular:

- The legislation on the handling of refrigerants.
- Floor heating system installation.
- Low voltage electrical installations - Rules.

2.2 Unpacking and reservations

2.2.1 Receipt

Carefully check, in the carrier's presence, the general appearance of the appliances and check that the outdoor unit is not laid on its side or back.

In the case of any dispute, state any appropriate reservations to the carrier in writing within 48 hours and send a copy of this letter to the After-Sales service.

2.2.2 Handling

The outdoor unit should not be laid on its side or back during transport.

If not kept upright during transport, the appliance could be damaged through displacement of the refrigerant and deformation of the compressor suspension.

Any damage caused by transportation of the unit lying down is not covered by the warranty.

If necessary the outdoor unit may be tilted only during manual handling (to go through a door or use a staircase).

This operation must be conducted very carefully and the appliance must be immediately restored to upright position.

2.2.3 Containment of refrigerant circuits

All refrigerant circuits fear contamination from dust and moisture. If such pollutants introduced into refrigeration circuit, they can contribute to degrade the reliability of the heat pump.

☞ **It's necessary to ensure correct containment connections and refrigerant circuits (hydraulic unit, outdoor unit).**

☞ **In case of subsequent failure and expertise, the finding of the presence of moisture or foreign objects into the compressor oil would lead to systematic exclusion of warranty.**

- Check upon receipt that the fittings and the refrigeration circuit caps mounted on hydraulic unit and outdoor unit are properly seated and locked (impossible to loosen bare hands). If this's not the case, tighten them using an against wrench.
- Check also that the refrigerant connections are sealed (plastic caps or tubes crushed at the ends and soldered). If the caps must be removed during installation (tubes cut by example), put back them as soon as possible.

2.2.4 Accessories provided

Accessories provided with the outdoor unit (figure 9).

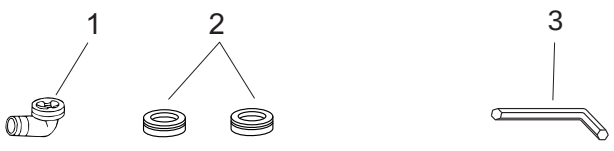
Accessories provided with the hydraulic unit (figure 10).

2.3 Installation position

The choice of the position for installation is particularly important insofar as any later movement is a delicate operation requiring the intervention of a qualified person.

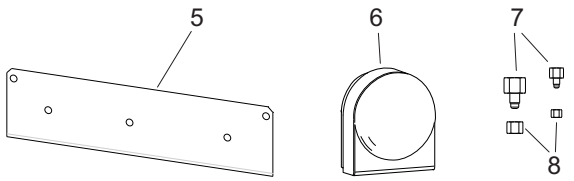
Choose the site of the outdoor unit and the hydraulic unit after discussion with the customer.

Observe the maximum and minimum distances between the hydraulic unit and the outdoor unit (figure 12); the guarantee of the performances and the system's service life depend on this.



1	Elbow	For draining away the condensates.
2	Plug (x2) (Depending on the model)	
3	Hex / Allen key	To open the valves.

figure 9 - Accessories provided with the outdoor unit



5	Bracket	To secure the hydraulic unit.
6	Outdoor sensor	To monitor the outdoor temp.
7	Adapter 1/2" - 5/8" and/or 1/4" - 3/8"	To connect the flared connection and the hydraulic unit.
8	Nut 1/2" and/or 1/4"	

figure 10 - Accessories provided with the hydraulic unit

2.4 Installation of the outdoor unit

2.4.1 Installation precautions

☞ **The outdoor unit must only be installed outdoor (outdoors). If a shelter is required, it must have broad openings on the 4 walls and observe the installation clearances (figure 11).**

- Choose a site that is preferably sunny and sheltered from strong cold predominant winds (mistral, tramontana, etc…).
- The unit must be easily accessible for future installation and maintenance work (figure 11, page 13).
- Ensure that it is possible to make the connections to the hydraulic unit easily.
- The outdoor unit is able to withstand bad weather but avoid installing in a position where it is likely to be exposed to significant dirt or flowing water (under a defective gutter for example).
- Water may drain away from the outdoor unit when it is operating. Do not install the appliance on a paved terrace; choose a well-drained place (e.g. gravel or sand). If the installation is in an area where the temperature can be lower than 0°C for a long period, check that the presence of ice does not present any danger. A drainage pipe can also be connected to the outdoor unit (see page 14).
- Nothing should obstruct the air circulation through the evaporator and from the fan (figure 11).
- Keep the outdoor unit away from heat sources and inflammable products.
- Make sure the appliance not disturb the surrounding area or users (noise level, draught generated, low temperature of the air being blown out, with the risk of freezing plants in its path).

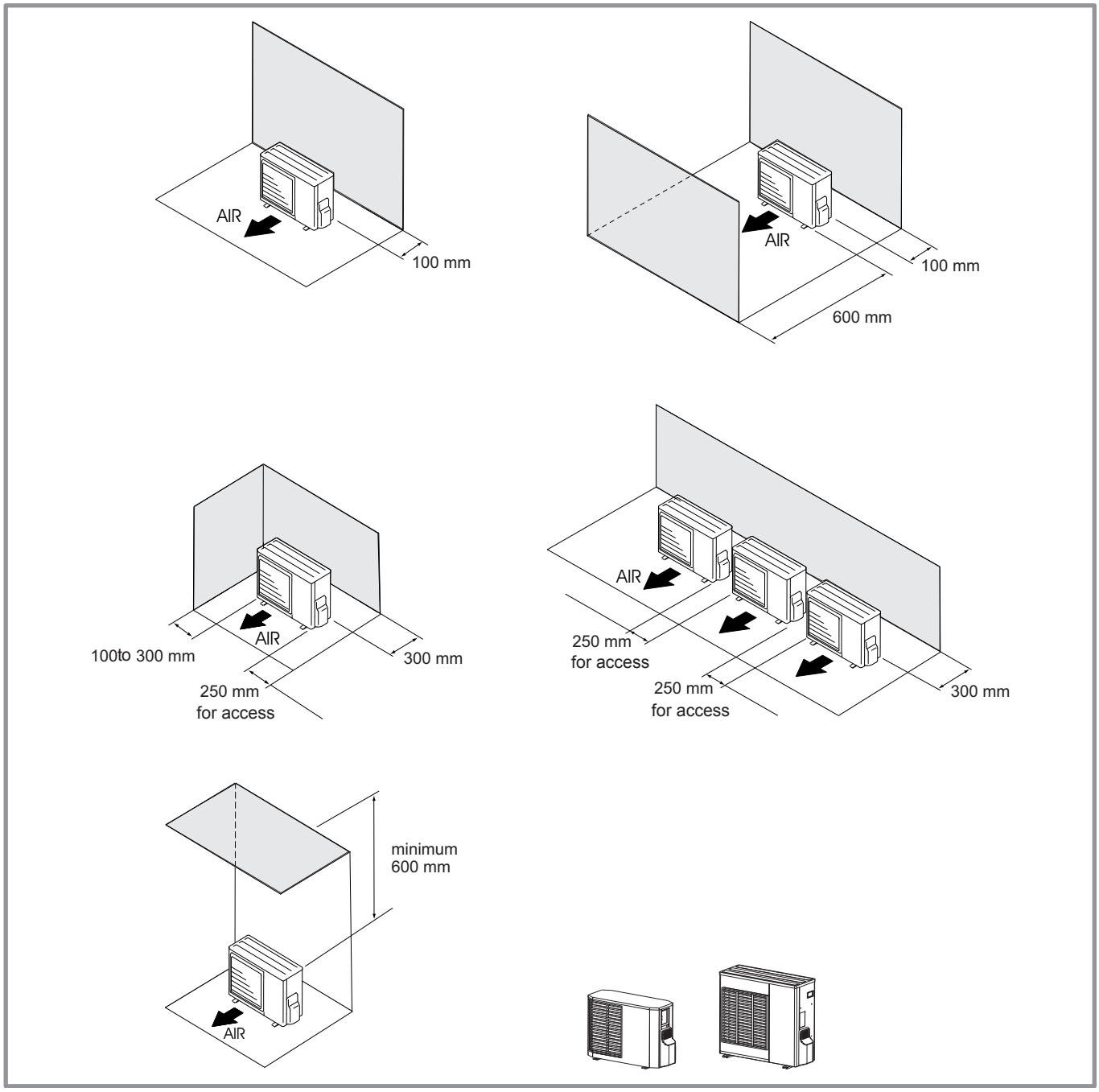
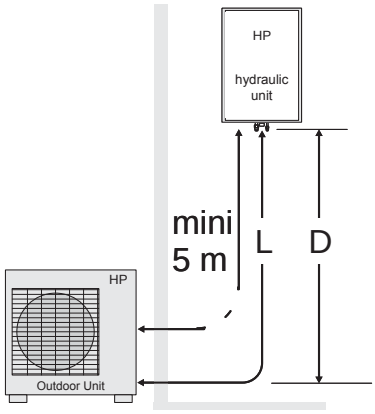


figure 11 - Minimum installation clearances around outdoor unit (all models)



HP model	Gas and fluid conduits				
	Gas	Liquid	Minimum length (L)	Maximum length * (L)	Maxi level difference (D)
Evolution 5 Evolution 6	1/2"	1/4"	5	15	15
Evolution 8	5/8"	1/4"	5	15	15
Evolution 10	5/8"	3/8"	5	20	20

* : without additional charge of R410A.

figure 12 - Pipe diameters (in inches) and permissible lengths (in metres)

• The surface on which the appliance is installed must :
- be permeable (soil, gravel, etc),
- support its weight easily,
- provide a solid fixing and
- not transmit any vibration to the dwelling. Anti-vibratory blocks are available as an option.

• The wall bracket can not be used in conditions likely to transmit vibrations, ground position is preferred.

2.4.2 Outdoor unit positioning

The outdoor unit must be raised at least 50 mm above ground level. In areas prone to snow, this height should be increased but should not exceed 1,5 m (figure 13).

- Fasten the outdoor unit by means of screws and rubber tightening or toothed lock washers to avoid their coming loose.

2.4.3 Condensate drain hose

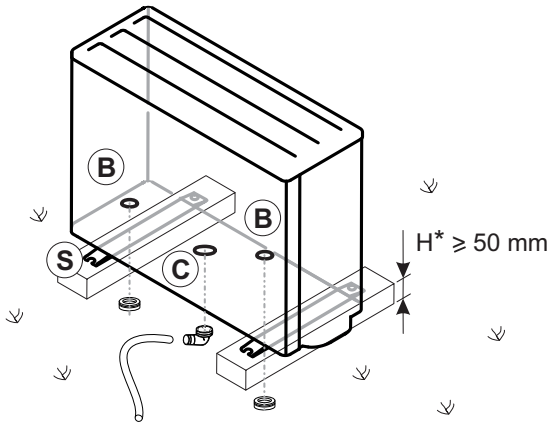
(see figure 13).

If the use of a discharge pipe is imperative:

- Use the elbow provided (**C**) to connect a 16mm diameter hose for draining away the condensate.
- Use the stopper or stoppers provided (**B**) to block the opening of the condensate tank.

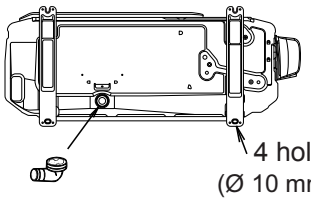
Allow for the condensate to flow away under the force of gravity (waste water, rain water, gravel bed).

☞ **If the installation is made in an area where the temperature can be lower than 0°C for a long period, provide the drain pipe with a trace resistance to avoid it icing up. The trace resistance must heat not only the pipe but also the bottom of the appliance's condensate collection tank.**



* In regions subject to frequent snow,
(H) must be greater than the average snow layer.

Depending on the model



Depending on the model

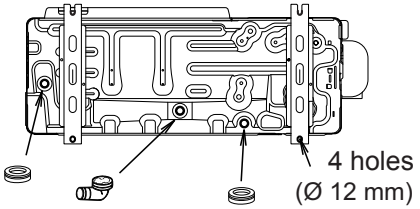
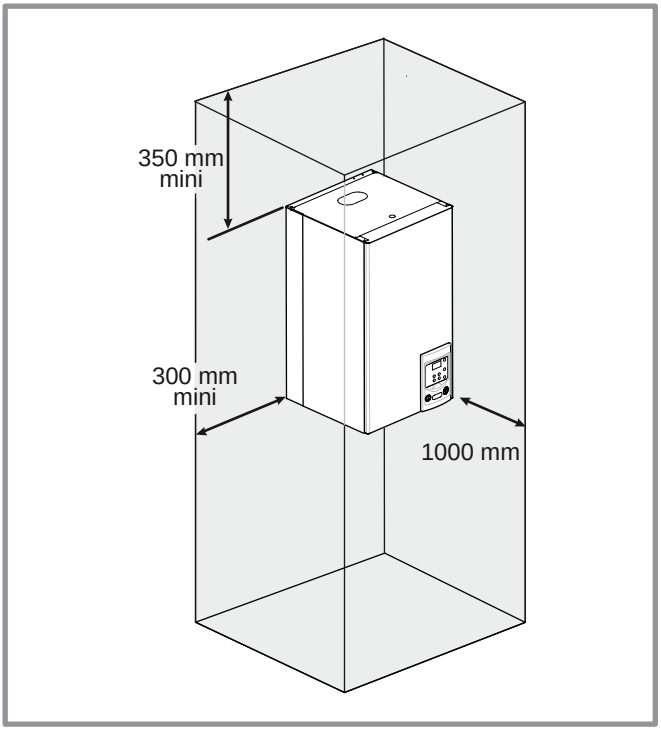


figure 13 - Positioning of the outdoor unit, draining away the condensate

2.5 Installing the hydraulic unit

2.5.1 Installation precautions

- The room in which the appliance operates must comply with the prevailing regulations.
- To facilitate maintenance and to allow access to the various components, we recommend that you provide sufficient space all around the hydraulic unit.



- Be careful not to bring inflammable gas near to the heat pump during its installation, in particular when it requires brazing. The appliances are not fireproof and should therefore not be installed in a potentially explosive atmosphere.

- To avoid condensation inside the condenser, remove the refrigerant circuit caps **only when building the refrigerant connections**.
- If the refrigerant connection only occurs at the end of the installation, be sure that the refrigerant circuit caps* remain in place and tight throughout the installation duration.
  * (hydraulic unit side and outdoor unit side)
- After every intervention on the refrigeration circuit and before final connection, take care to replace the plugs in order to avoid any pollution from the refrigeration circuit (The sealing with tape is prohibited).

2.5.2 Positioning the hydraulic unit

- Fix the support solidly (4 screws and plugs) to a flat, hard-wearing wall (not a light partition) ensuring that it is correctly levelled.
- Hook the appliance onto its support.

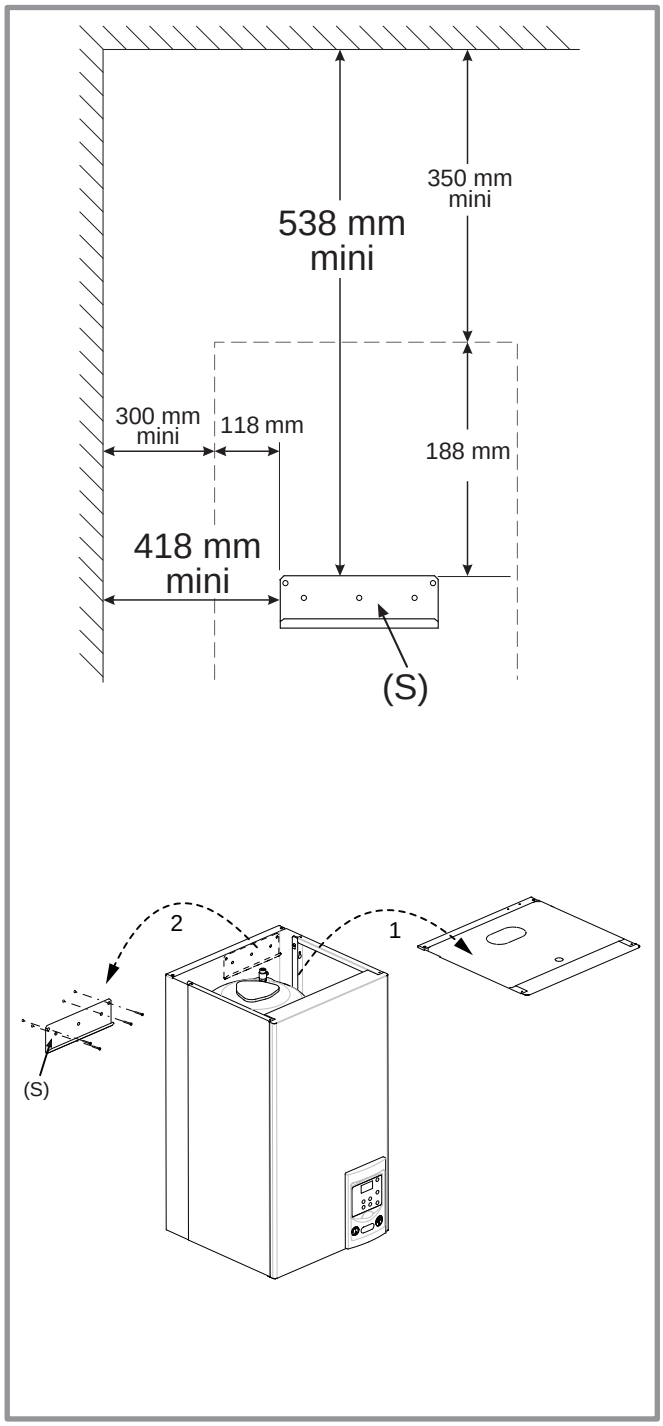


figure 14 - Mounting bracket

2.6 Refrigeration connections

☞ **This appliance uses refrigerant R410A.**

Comply with the legislation for handling refrigerants.

2.6.1 Rules and precautions

• After every intervention on the refrigeration circuit and before final connection, take care to replace the plugs in order to avoid any pollution from the refrigeration circuit.

• Minimum necessary tools

- Set of manometers (*Manifold*) with hoses exclusively reserved for HFCs (Hydrofluorocarbons).
- Vacuum gauge whith isolation valves.
- Vacuum pump specially for HFCs (use of a traditional vacuum pump is authorized if, and only if, it is fitted with a non-return valve on the suction side).
- Flaring tool.
- Pipe-cutter.
- Deburring tool.
- Wrenches.
- Refrigerant gas leak detector certified (sensitivity 5g/year).

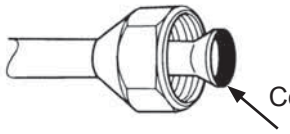
☞ **Provision on using tools that have been in contact with HCFCs (R22 for example) or CFCs.**

☞ **The manufacturer declines any liability with regard to the guarantee if the above instructions are not observed.**

• Flared connections

☞ **Lubrication with mineral oil (for R12, R22) is forbidden.**

- Only lubricate with polyolester refrigeration oil (POE). If POE is not available, fit without lubrication.



Coat the flared surface with **POE refrigeration oil. Do not use mineral oil.**

• Brazing on the refrigeration circuit (if necessary)

- Silver brazing (40% minimum recommended).
- Brazing only under dry nitrogen internal flux.

• To eliminate any filings in the pipes, use dry nitrogen to avoid introducing any humidity that may adversely affect the appliances operation. In general, take every precaution to avoid humidity penetrating into the appliance.

• Proceed to insulate the gas and liquid pipes to avoid any condensation. Use pipe insulators resistant to temperatures over 90°C. In addition if the humidity level in areas where the refrigeration pipes are installed is expected to exceed 70%, protect the pipes with pipe insulators. Use an insulating material thicker than 15mm if the humidity level is 70~80%, and an insulating material thicker than 20mm if the humidity exceeds 80%. If the recommended thicknesses are not observed under the conditions described above, condensation will form on the surface of the insulation material. Lastly, take care to use pipe insulators whose thermal conductivity is 0.045 W/mK or less when the temperature is 20°C. The insulation must be impermeable to resist the passage of steam during the defrosting cycles (fibreglass wool is prohibited).

2.6.2 Refrigeration connections

The outdoor unit must be connected to the hydraulic unit **only** with copper pipes and connections (refrigeration quality), insulated separately.

Comply with the pipe diameters and the permitted pipe lengths (figure 12).

The minimum length of the refrigeration connections is 5 m for correct operation.

The appliance will be excluded from guarantee if it is used with refrigeration connections less than 5 m long.

If the refrigeration connections are exposed to weathering or UV- and the insulation is not strong, it is necessary to provide protection.

Manipulate the pipes and take them through walls with protective plugs in place.

2.6.3 Accessing the hydraulic module's refrigerant connections

- Remove the front panel (2 screws A, figure 15).
- Remove the left-hand panel (2 screws B, figure 16).

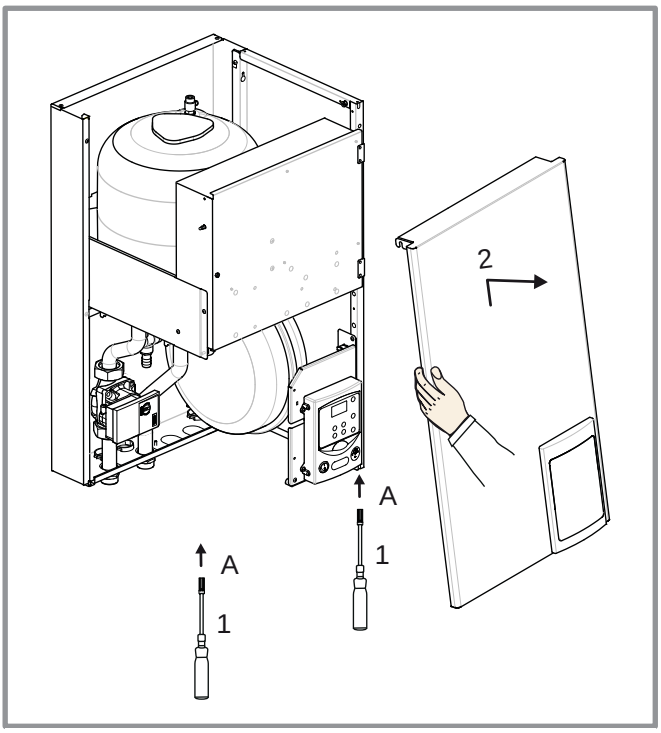
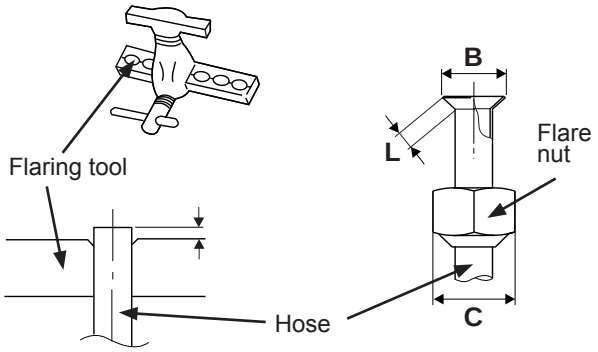


figure 15 - Removing the front panel

2.6.4 Creating the flarings

- Cut the pipe to an appropriate length with a pipe-cutter without deforming it.
- Carefully deburr it, holding the pipe towards the bottom to avoid introducing filings into the pipe.
- Remove the flared connection nut situated on the valve to be connected and slip the pipe into the nut.
- Proceed to flare, letting the pipe overflow the flaring tool.
- After flaring, check the condition of the working radius (**L**). This must not show any scratch or trace of any fracturing. Also check the dimension (**B**).



ø hose	Dimensions in mm		
	L	B $^{0}/_{-0,4}$	C
6,35 (1/4")	1,8 to 2	9,1	17
9,52 (3/8")	2,5 to 2,7	13,2	22
12,7 (1/2")	2,6 to 2,9	16,6	26
15,88 (5/8")	2,9 to 3,1	19,7	29

2.6.5 Shaping the refrigeration pipes

The refrigeration pipes must be shaped only on a bending machine or with a bending spring in order to avoid any risk of crushing or breaking them.

☞ **Warning !**

- Remove the insulation material locally to bend the pipes.
- Do not bend the copper to any angle over 90°.
- Never bend pipes more than 3 times in the same position otherwise traces of fracturing may appear (from strain-hardening the metal).

2.6.6 Connecting the flared connections

☞ **Connections must be made the day of the filling the installation with gas (see para. 2.7, page 19).**

☞ **Take particular care positioning the tube opposite its connector so as not to risk damaging the threads. A carefully aligned connector can be fitted easily by hand without much force being required.**

☞ **The refrigeration circuit is very sensitive to dust and humidity: check that the area around the connection is clean and dry before removing the plugs protecting the refrigeration connectors.**

- Depending on the case, connect an adapter (reducer) 1/4"- 3/8" or 1/2"- 5/8' (see figure 18).
- Remove the plugs from the pipes and the refrigeration connections.
- Present the pipe to the flared connector and screw the nut by hand while holding the connector with a wrench until contact.
- **Warning!** Do not position the gas tube in front of the circulation pump cleaning screw.
- Comply with the indicated tightening torques.

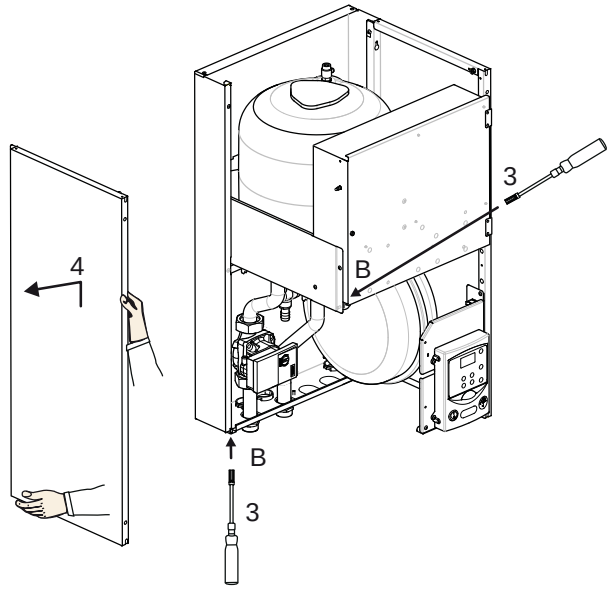
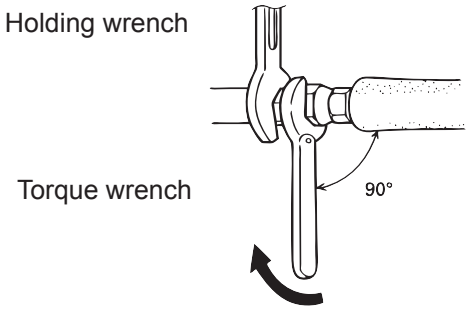


figure 16 - Removing the left-hand panel



Designation	Tightening torque
Flare nut 6,35 mm (1/4")	14 to 18 Nm
Flare nut 9,52 mm (3/8")	33 to 42 Nm
Flare nut 12,7 mm (1/2")	50 to 62 Nm
Flare nut 15,88 mm (5/8")	63 to 77 Nm
Plug (A) 3/8", 1/4"	20 to 25 Nm
Plug (A) 1/2"	25 to 30 Nm
Plug (A) 5/8"	30 to 35 Nm
Plug (B) 3/8", 5/8"	10 to 12 Nm
Plug (B) 1/2", 1/4"	12,5 to 16 Nm

figure 17 - Tightening torque

HP model		Outdoor unit connections	Diameter of refrigeration connections	Male-female adapter (reduction)	Hydraulic unit connections
Evolution 5 Evolution 6	gas	1/2"	(D1) 1/2"	(R1) 1/2" - 5/8"	5/8"
	liquid	1/4"	(D2) 1/4"	(R2) 1/4" - 3/8"	3/8"
Evolution 8	gas	5/8"	(D1) 5/8"	none	5/8"
	liquid	1/4"	(D2) 1/4"	(R2) 1/4" - 3/8"	3/8"
Evolution 10	gas	5/8"	(D1) 5/8"	none	5/8"
	liquid	3/8"	(D2) 3/8"	none	3/8"

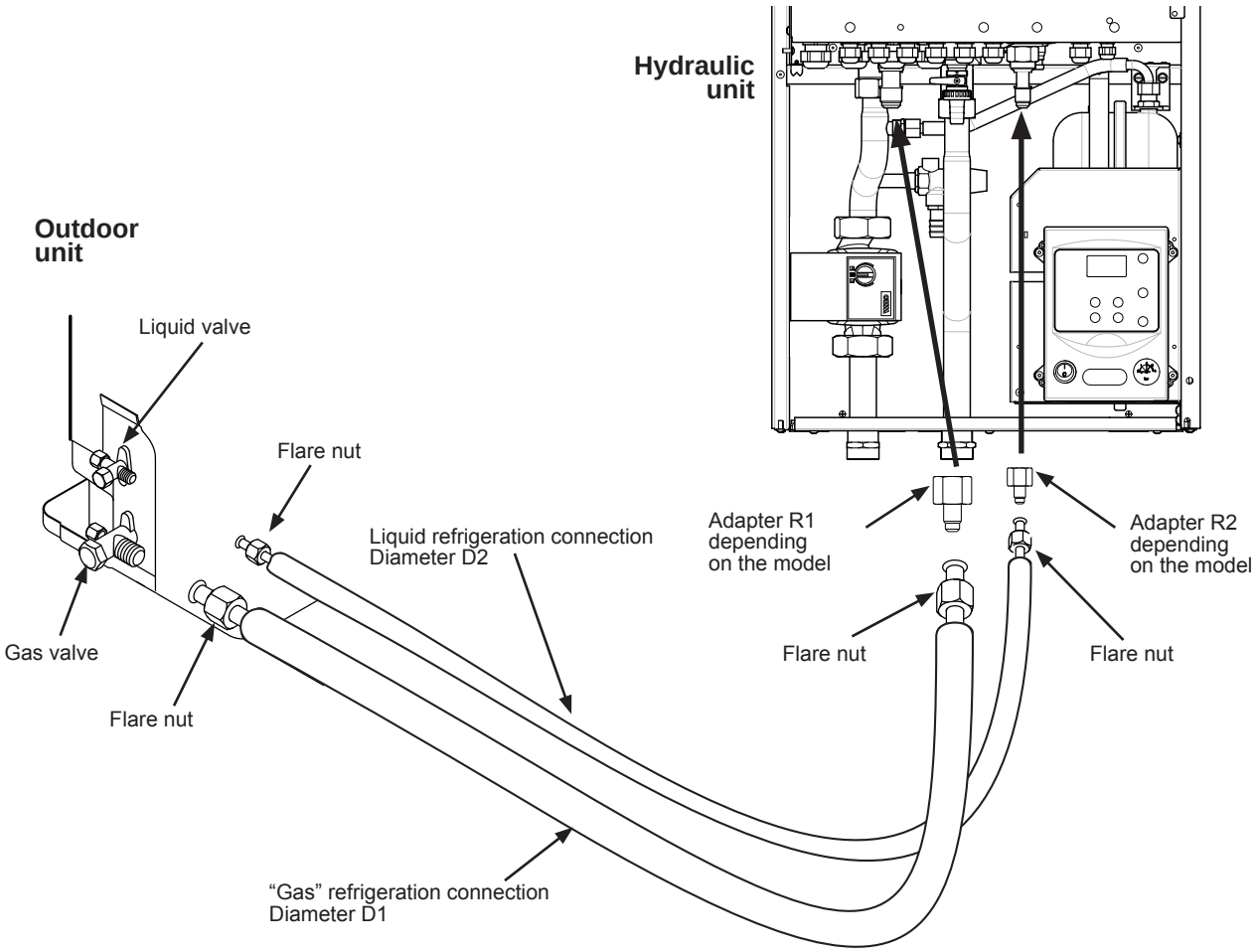


figure 18 - Connecting the flared connections

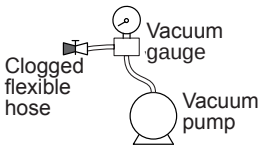
2.7 Filling the installation with gas

- ☞ **This operation is reserved for installers familiar with the legislation for handling refrigerants.**
- ☞ **Creating a vacuum with a vacuum pump is essential (see ANNEX 1).**
- ☞ **Never use equipment used beforehand with any refrigerant other than a HFC.**
- ☞ **Remove the refrigerant circuit caps only when building the refrigerant connections.**
- ☞ **Unfavorables conditions :**
  - If the outdoor temperature is between +5 and +10 °C, it's obliged to have a vacuum gauge for validate the pump down operation and use method 3 empty. (**see ANNEX 2**).
  - If the outdoor temperature is below +5 °C, it's strongly not recommended to do the filling the installation with gas.

ANNEX 1

Method for calibration and control of a vacuum pump

- Check the oil level of the vacuum pump.
- Connect the vacuum pump with the vacuum gauge according to the scheme.



- Pump down during 3 minutes.
- After 3 minutes, the pump reaches its threshold value and the vacuum gauge needle does not move.
- Compare the obtained pressure with the value of the table. Depending on the temperature, this pressure must be less than the value indicated in the table.

  => If it's not the case, replace the gasket, flexible hose or the pump.

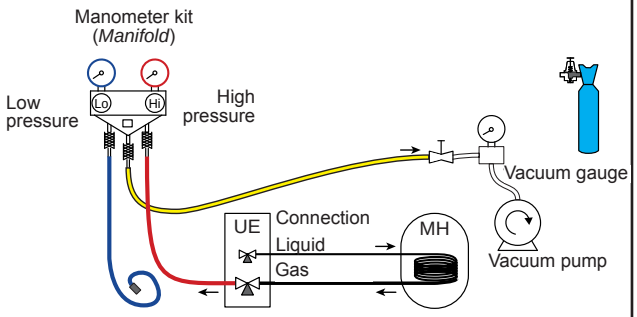
T °C	5°C<T<10°C	10°C<T<15°C	15°C < T
Pmax - bar . . - mbar	. . . 0.009 . . . . 9	. . . 0.015 . . . . 15	. . . 0.020. . . . . .20 . . .

ANNEX 2

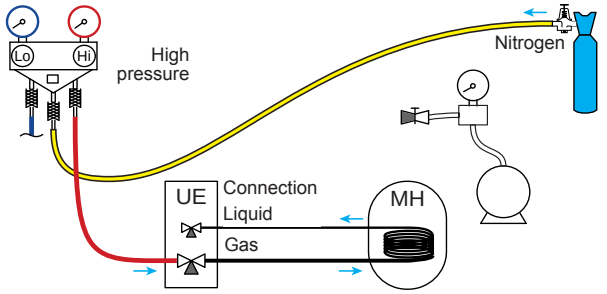
Method 3 empty

- Connect the high pressure hose to the *Manifold*, ("Gas" connection). A valve must be mounted on the flexible hose from the vacuum pump in order to isolate it.

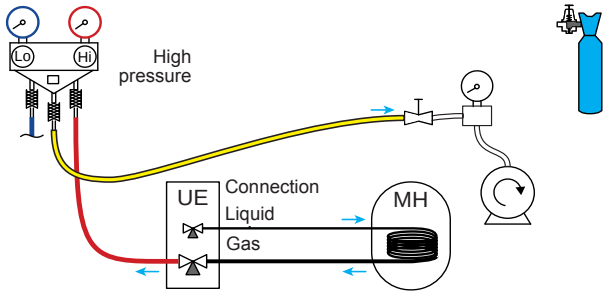
a) Pump down to the desired value (see table ANNEX 1),



b) Stop the vacuum pump, close the valve end of the service hose (yellow). Connect the hose to the expansion valve of the nitrogen bottle, inject 2 bars, close the flexible hose valve,



c) Reconnect the flexible hose to the vacuum pump, turn on and gradually open the hose valve.



d) Repeat this at least three times.

- ☞ **<u>Reminder</u> : It's strictly forbidden to perform these operations with refrigerant.**

2.7.1 Commissioning procedure

• Check before connecting

<u>"Gas" connection control (large diameter)</u>.

- Connect the "Gas" connection to the outdoor unit.
- Blow dry nitrogen into the "Gas" connection and observe this end:

  · If water or impurities emerge, use a new refrigerant connection.

  · Otherwise, perform the flare and connect immediately the refrigerant connection to the hydraulic unit.

<u>"Liquid" connection control (small diameter)</u>.

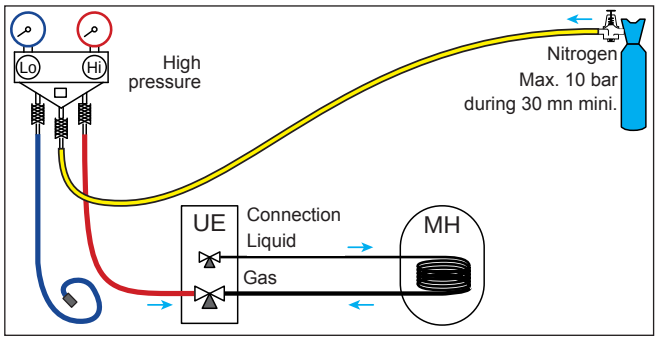
- Connect the "Liquid" connection to the outdoor unit.
- Blow dry nitrogen into **"Gas" connection – condensor - "Liquid" connection** assembly and Observe this end (Outdoor unit side).

  · If water or impurities emerge, use a new refrigerant connection.

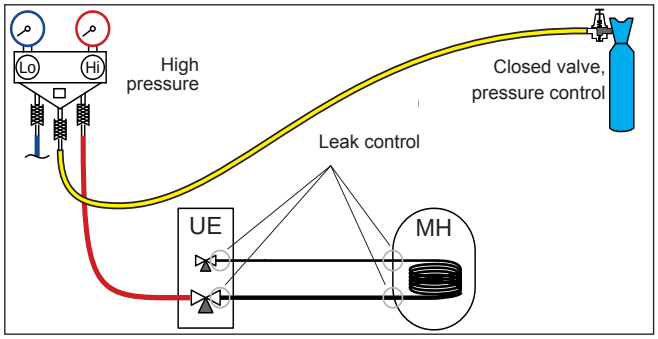
  · Otherwise, perform the flare and connect immediately the refrigerant connection to the outdoor unit.

• First seal test

- Remove the protective plugs (**B**) from the charging hole (*Schrader*) in the "Gas" valve (large diameter).
- Connect the high pressure hose to the *Manifold*.
- Connect the bottle of nitrogen to the *Manifold* (Use only dry nitrogen type U)
- Pressurize the refrigerant circuit with nitrogen (10 bar maximum) ("Gas" connection – condensor - "Liquid" connection assembly).
- Let the circuit under pressure for 30 minutes.



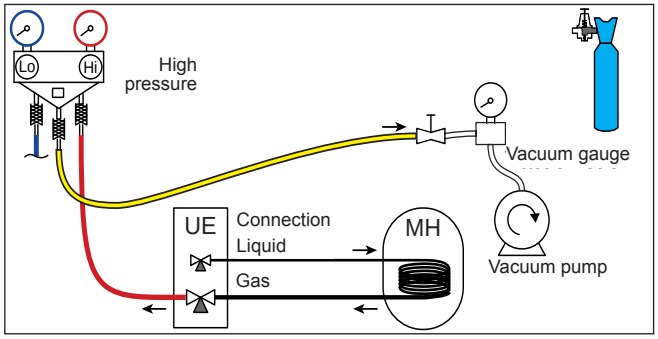
- Search for leaks with a leak detector product, repair and repeat the test.



- When the pressure is stable and leakage is excluded, drain nitrogen letting a pressure above atmospheric pressure (0,2 to 0,4 bar).

• Creating a vacuum and filling the refrigeration connections with gas

- If necessary, calibrate the *Manifold* gauge to 0 bar. Adjust the vacuum gauge to the atmospheric pressure (around 1013 mbar)
- Connect the vacuum pump to the *Manifold*. Connect a vacuum gauge if the vacuum pump is not equipped.



- Create a vacuum until the residual pressure* in the circuit falls below the value given in the following table. (* measured with the vacuum gauge)

T °C	5°C<T<10°C	10°C<T<15°C	15°C < T
Pmax - bar . . - mbar	. . . 0.009 . . . . 9	. . . 0.015 . . . . 15	. . . 0.020 . . . . . . .20 . . . . .

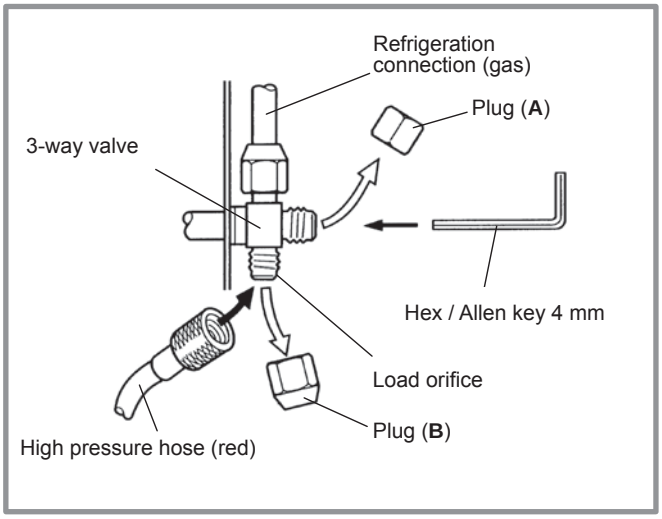


figure 19 - Connexion of the hose on the "Gaz" valve

- Let the pump continue to operate for another 30 minutes minimum after reaching the vacuum.
- Close the *Manifold* valve and then stop the vacuum pump **without disconnecting any of the hoses in place**.

☞ **If the outdoor temperature is between +5 and +10 °C, use method 3 empty (see ANNEX 2)**

- Remove the access plugs (**A**) from the valve controls.
- First of all fully open the "Liquid" valve (small) and then the "Gaz" valve (large) using a hex key (counterclockwise direction) without forcing excessively against the stop.
- Remove the hose rapidly to the *Manifold*.
- Refit the 2 original caps (be sure they are clean) and tighten them to the recommended tightening torque. The sealing is performed in the caps only metal to metal.

The outdoor unit does not contain any additional refrigerant, enabling the installation to be purged.

Flushing is strictly forbidden.

2.7.2 Sealing test

Once the refrigeration circuit has been gassed as described above, check that all the refrigeration connectors are gas-tigh:

6 connectors for models Evolution 5 and Evolution 6, 5 connectors for model Evolution 8 and 4 connectors for models Evolution 10.

The sealing test must be performed with an approved gas detector. If the flarings have been made correctly, there should be no leaks.

☞ **If there is a leak:**

- Bring the gas into the outdoor unit (pump down),
- Make the connection again,
- Repeat the commissioning procedure.

2.8 Connecting the heating circuit hydraulically

2.8.1 General

The connection must comply with good trade practice according to local building regulations.

The heating circulating pump is built into the hydraulic unit.

Connect the central heating pipes to the appliance, complying with the direction of circulation.

The pipe between the heat pump and the heat collector must be at least one inch in diameter (26x34 mm).

Calculate the diameter of the pipes according to the flow rates and the lengths of the hydraulic systems.

Tightening torque : 15 to 35 Nm.

Use union connectors to facilitate removing the hydraulic unit.

Preferentially use connection hoses to avoid transmitting noise and vibrations to the building.

Connect the drains from the drain valve and the safety valve to the main sewer system.

Verify the correct functioning of the expansion system. Control the vessel pressure (precharge 1 bar) and the safety valve setting.

Reminder: Seal everything when fitting in accordance with prevailing trade practice for plumbing work:

- Use suitable seals (fibre seals, o-rings).
- Use Teflon tape or hemp.
- Use sealing paste (synthetic depending on the case).

The use of glycol is not necessary.

If you are using a glycol/water mix, provide for an annual check on the quantity of glycol. Use monopropylene glycol only. **Never use monoethylene glycol.**

In certain installations, the presence of different metals can cause corrosion problems; the formation of metal particles and sludge in the hydraulic circuit is then seen.

In this case, it is advisable to use a corrosion inhibitor in the proportions indicated by its manufacturer.

It is also necessary to ensure that the treated water does not become aggressive.

2.8.2 Rinsing out the installation

Before connecting the hydraulic unit to the installation, rinse out the heating system correctly to eliminate any particles that may affect the appliance's correct operation.

Do not use solvents or aromatic hydrocarbons (petrol, paraffin, etc.).

In the case of an old installation, provide a sufficiently large decanting pot with a drain on the return from the boiler and at the lowest point in the system in order to collect and remove the impurities.

Add an alkaline product to the water and a dispersant.

Rinse the installation several times before filling it definitively.

2.8.3 Filling and purging the installation

Check the pipe fixings, the tightness of the connectors and the stability of the appliance.

Check the direction in which the water is circulating and that all the valves open.

Proceed to fill the installation.

Do not operate the circulating pump while filling. Open all the drain valves in the installation and the bleeder valve for the hydraulic unit to remove the air contained in the conduits.

Close the drain and bleeder valves and add water until the pressure in the hydraulic circuit reaches 1,5 bars.

Check that the hydraulic circuit has been purged correctly.

Check that there are no leaks and that the circulating pumps are not seized (if need be, release them).

After the "Start-up" stage (see page 30), once the machine has started, purge the hydraulic unit again.

☞ **Precise filling pressure is determined by the manometric height of the installation.**

2.8.4 Connecting a fan-convectors circuit

It must be installed on this circuit a buffer tank (minimum capacity: 50 liters).

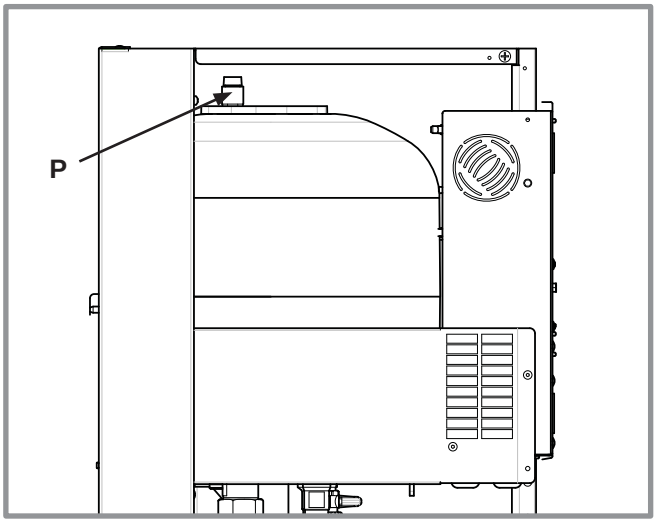
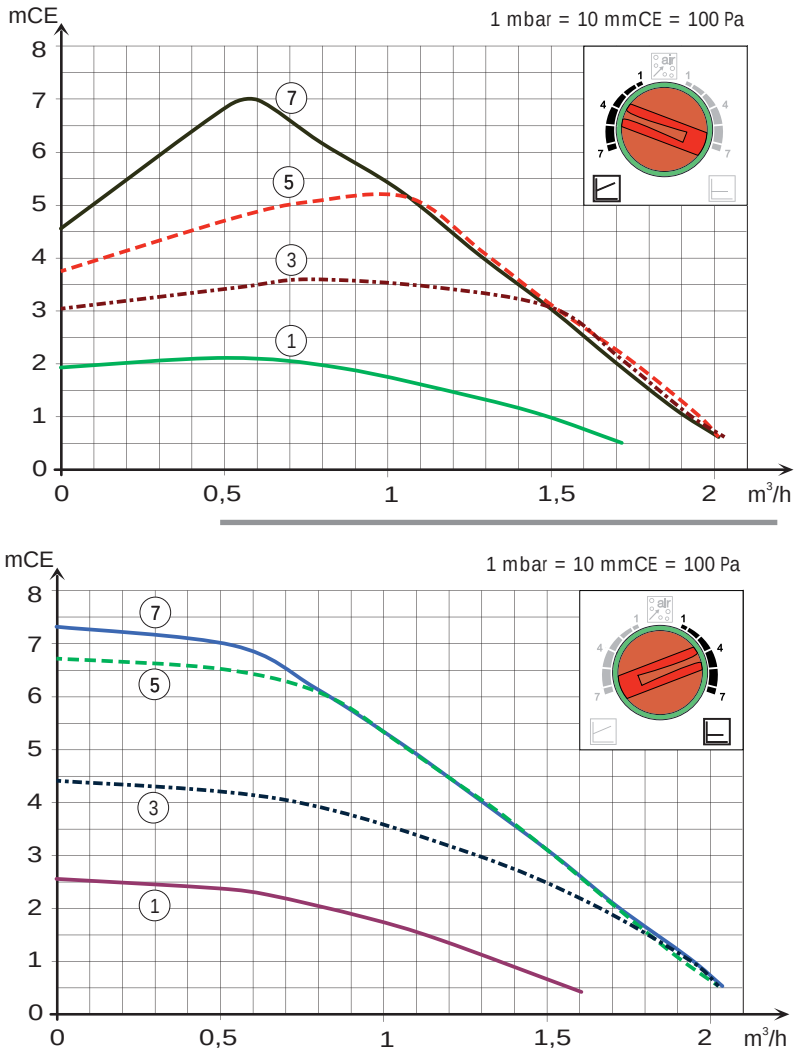


figure 20 - hydraulic unit bleeder valve

2.9 Speed settings of the HP pump



Variable pressure

The circulator varies the manometric height according to the flowrate.

Recommended for a system equipped with **radiators** (particularly any system with thermostatic valves).

Constante pressure

The circulation pump maintains the manometric height constant whatever the flow rate.

Recommended for a system with constant pressure drop like a **floor heating system**.

figure 21 - Hydraulic pressures and flow rates available

	OFF	LED Off: The pump does not work, no electrical power.
	✓	Green LED on: The pump works normally
	air **10 min.**	Green LED blink: Venting operating mode (10 minutes).
	Auto Test	Green/Red LED blink: Operating error with automatic reboot.
		Red LED blink: Operating error.

figure 22 - Operation signals the HP circulator

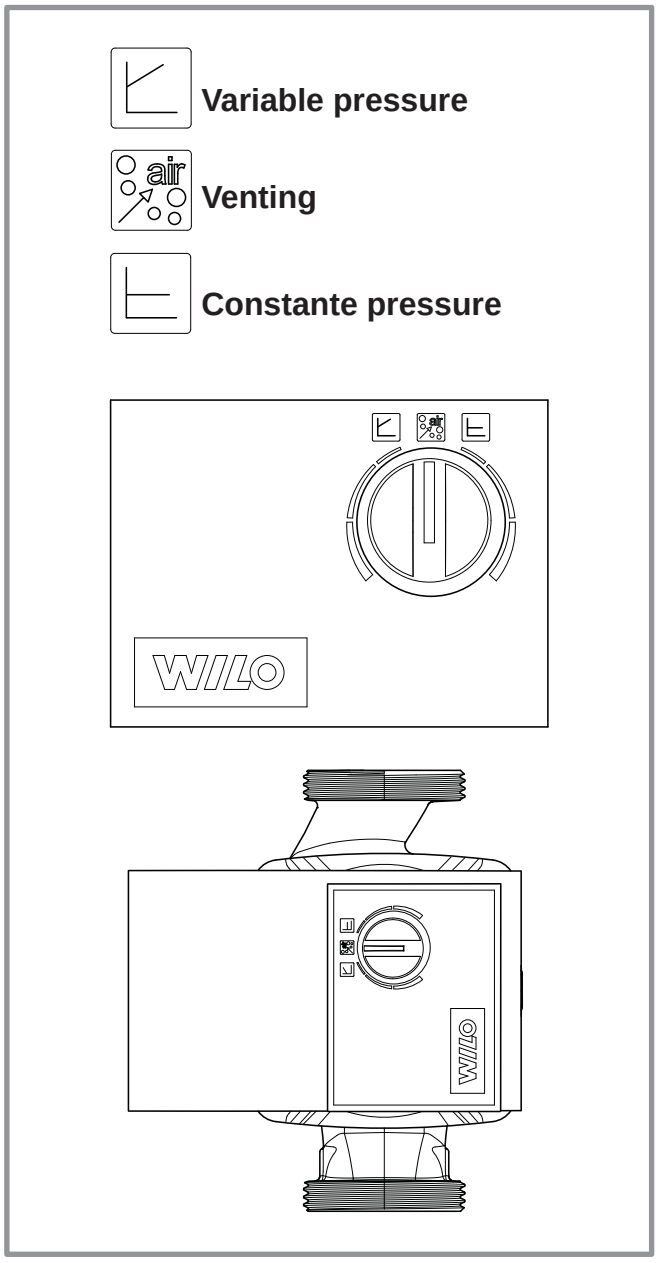


figure 23 - Pump dial

Circulation pump sticking or blocked:

If the motor is blocked, a start cycle is launched.

If the motor remains blocked it will be permanently stopped.

☞ **Cut off the electricity supply from the circulation pump for 30 seconds in order to release and authorise another start cycle.**

2.10 Electrical connections

Ensure that the general electrical power supply has been cut off before starting any repair work.

2.10.1 Characteristic of the electrical supply

The electrical installation must be conducted in accordance with the prevailing regulations.

The electrical connections must only be made when all the other fitting operations have been completed (fixing, assembly, etc.).

☞ **Warning !**

The contract concluded with the energy provider must be sufficient not only to cover the heat pump's power but also the combined sum of all the appliances likely to be operating at the same time. When the power is too low, check with your energy provider the value subscribed to in your contract.

Never use a socket for the power supply.

The heat pump must be supplied with power by special protected leads from the electric panel via 2-pole circuit breakers specially dedicated to the heat pump: Curve D for the outdoor unit, curve C for the electric heating and domestic water back-ups (see tables on page 25).

The electrical installation must necessarily be equipped with a 30mA differential protection.

This appliance is designed to operate under a nominal voltage of 230 V +/- 10%, 50 Hz.

2.10.2 General remarks on electrical connections

It is essential to maintain the live-neutral polarity when making the electrical connections.

Tighten the screws on the terminal blocks perfectly. Unsufficient tightening can cause overheating, leading to breakdown or even a fire.

Tighten the cables using the cable glands to prevent the conductors from disconnecting accidentally.

Connection to Earth and Earth bonding continuity are essential.

• Connecting to screw terminals

Rigid wires (A)

Rigid wires are always preferable for fixed installations, particularly in a building.

- Always select a wire that complies with the prevailing standards.
- Strip away around 25 mm from the end of the wire.
- With round end pliers, form a loop with a diameter corresponding to the tightening screws on the terminal.
- Tighten the terminal screw firmly onto the loop created.

Flexible wires (B)

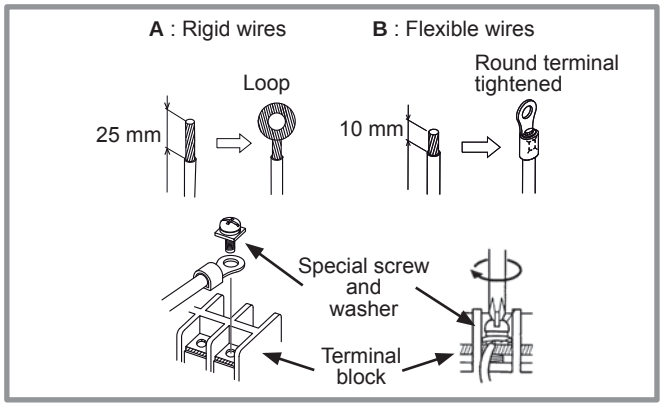
H07RNF type (or superior quality) flexible wire can be used with certain precautions:

Strip away around 10mm from the end of the wire.

With tightening pliers, fit a round tag with a diameter corresponding to the terminal screw's diameter on the end of the wire.

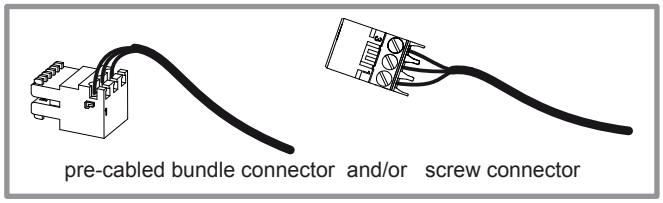
Tighten the tag firmly onto the terminal with a screwdriver. We strongly advise against using flexible wires without round tags.

Always protect the cables when passing them through cable clamps with PVC protective conduit 0,5 to 1mm thick.



• Connecting to regulation cards

- Remove the corresponding connector and make the connection.



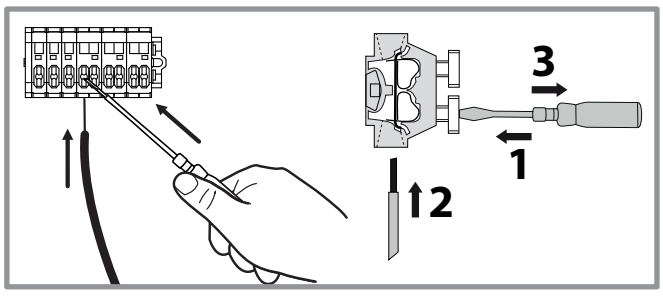
• Connecting to spring terminals

Rigid wires

- Strip away around 10mm from the end of the wire.
- Slide the wire into the opening provided for this purpose.
- Push the spring with a screwdriver so that the wire enters the cage.
- Remove the screwdriver and then check that the wire is jammed in the cage by pulling on it.

Flexible wires

- Use the ends and proceed as before.



2.10.3Overview of all the electrical connections

The wiring diagram for the hydraulic unit is shown in detail on figure 39, page 46.

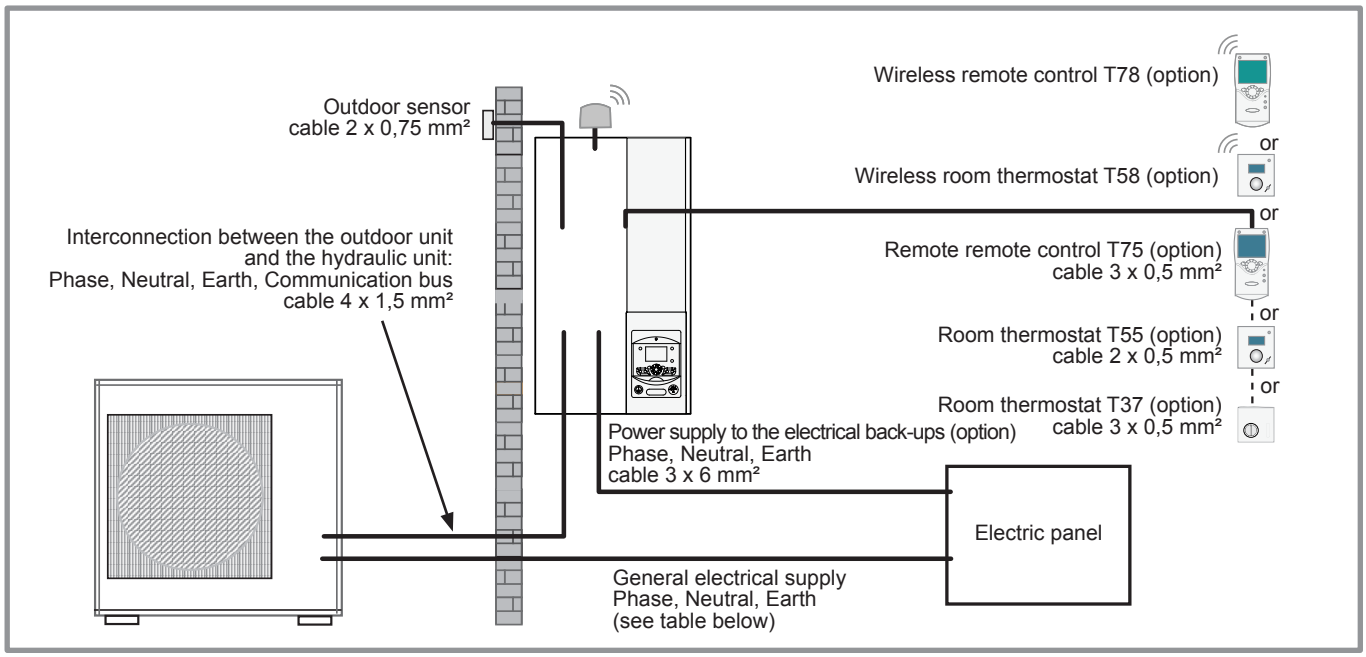


figure 24 - Overall layout of the electrical connections for a simple installation (1 heating circuit)

2.10.4Cable section and protection rating

The cable sections are given for information purposes only and do not exempt the installer from checking that these sections correspond to the requirements and comply with the prevailing standards.

• Power supply to outdoor unit

Heat pump		*Electricity supply 230 V - 50 Hz*	
Model	*Maxi. power absorbed*	*Cable connection (Phase, Neutral, Earth)*	*Curve D circuit breaker size*
Evolution 5, Evolution 6	3450 W	3 x 1,5 mm²	16 A
Evolution 8	3450 W	3 x 1,5 mm²	16 A
Evolution 10	3910 W	3 x 2,5 mm²	20 A

• Interconnection between the outdoor unit and the hydraulic unit

The hydraulic unit is powered by the outdoor unit by means of a cable with 4 x 1,5 mm² (Phase, Neutral, Earth, Communication bus).

• Power supply to the electrical back-ups (option)

The hydraulic unit contains two stages of electrical back-ups installed in a heat exchange tank.

Heat pump	*electrical back-ups*		*Electrical back-ups supply*	
Model	*Power*	*Nominal current*	*Cable (Phase, Neutral, Earth)*	*Curve C circuit breaker size*
Evolution 5, 6, 8 &10	2 x 3 kW	26,1 A	3 x 6 mm²	32 A

2.10.5 Electrical connections on the outdoor unit side

Access to the connection terminals:

• Model Evolution 5, Evolution 6 & Evolution 8

- Remove the cap (figure 25, page 26).

• Model Evolution 10

- Remove the front panel.
- Remove the cap (figure 27).

- Make the connections in accordance with the diagram(s) (figure 26).
- Use cable clamps to prevent the conductors from being disconnected accidentally.
- Use the mounting plate to hold the cables against the insulating plate (figure 28).

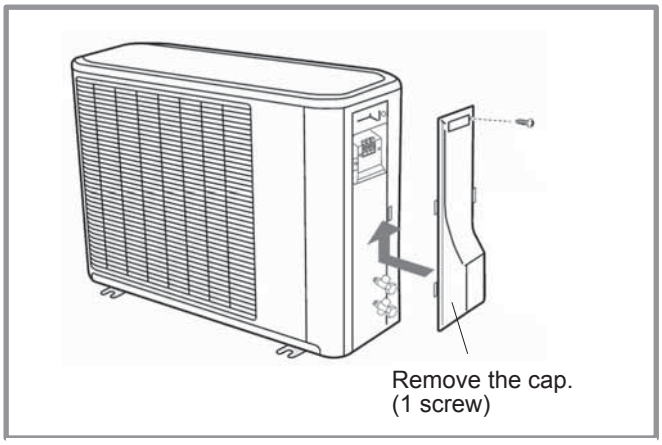


figure 25 - Access to outdoor unit's terminal block (Model Evolution 5, Evolution 6, Evolution 8)

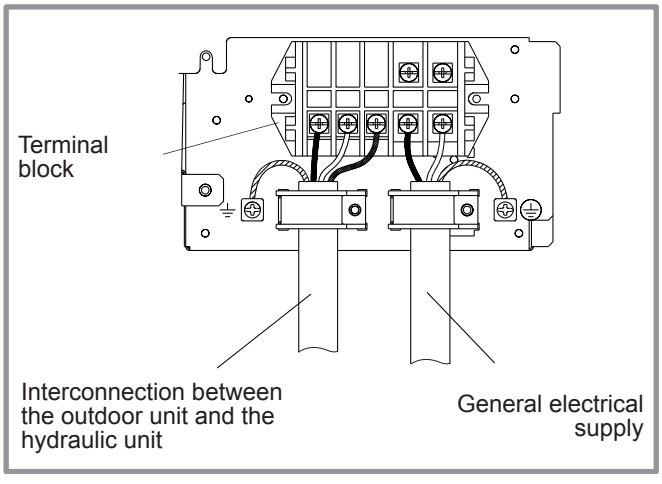


figure 26 - Connections to outdoor unit's terminal block

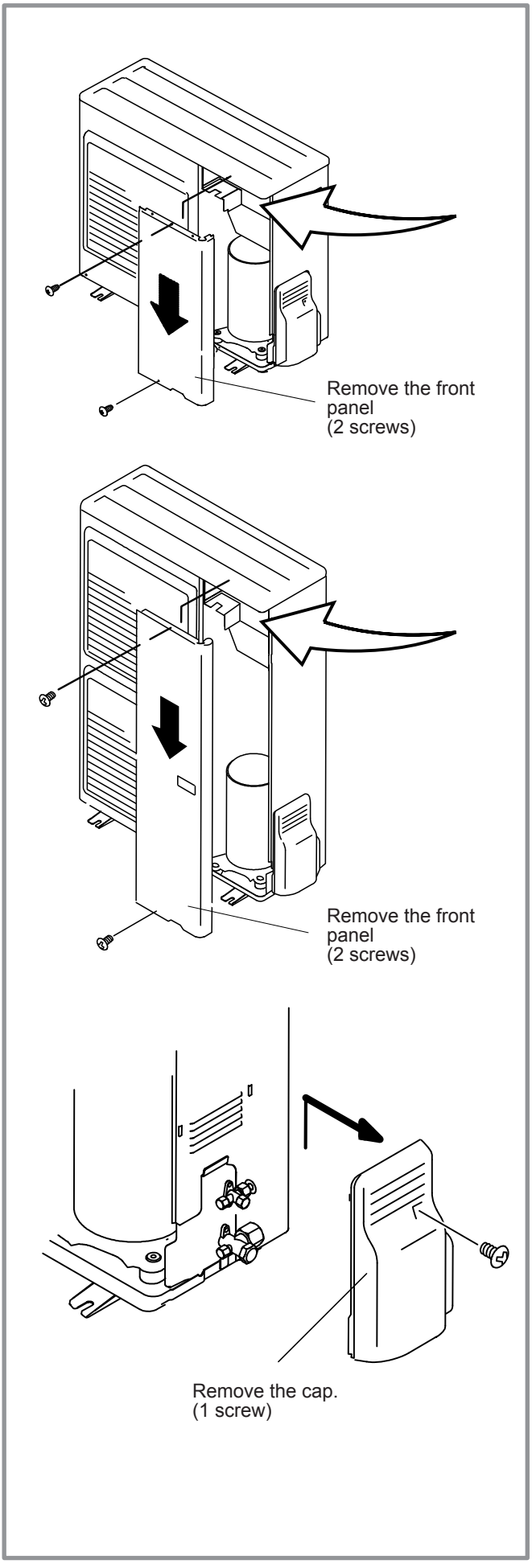


figure 27 - Access to outdoor unit's terminal block (Model Evolution 10)

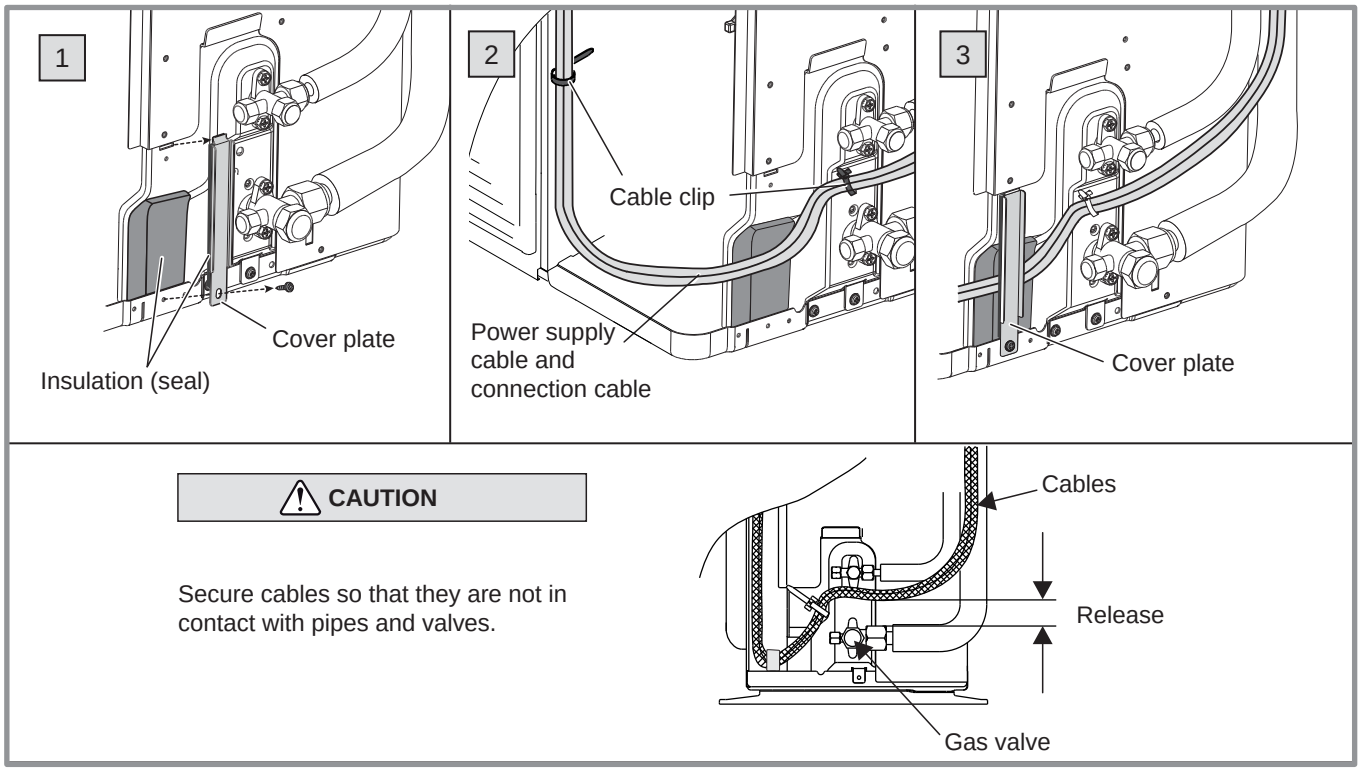


figure 28 - Finalisation of connection to outdoor unit

2.10.6 Electrical connections on the hydraulic unit side

Access to the connection terminals:

- Remove the front panel (2 screws) (figure 15, page 16).
- Open the power control box.
- Make the connections in accordance with the diagram(s) (figure 30).

Do not place the sensor lines and the sector supply lines in parallel in order to avoid interferences due to voltage points in the sector supply.

Ensure that all the electrical cables are housed in the spaces provided for this purpose.

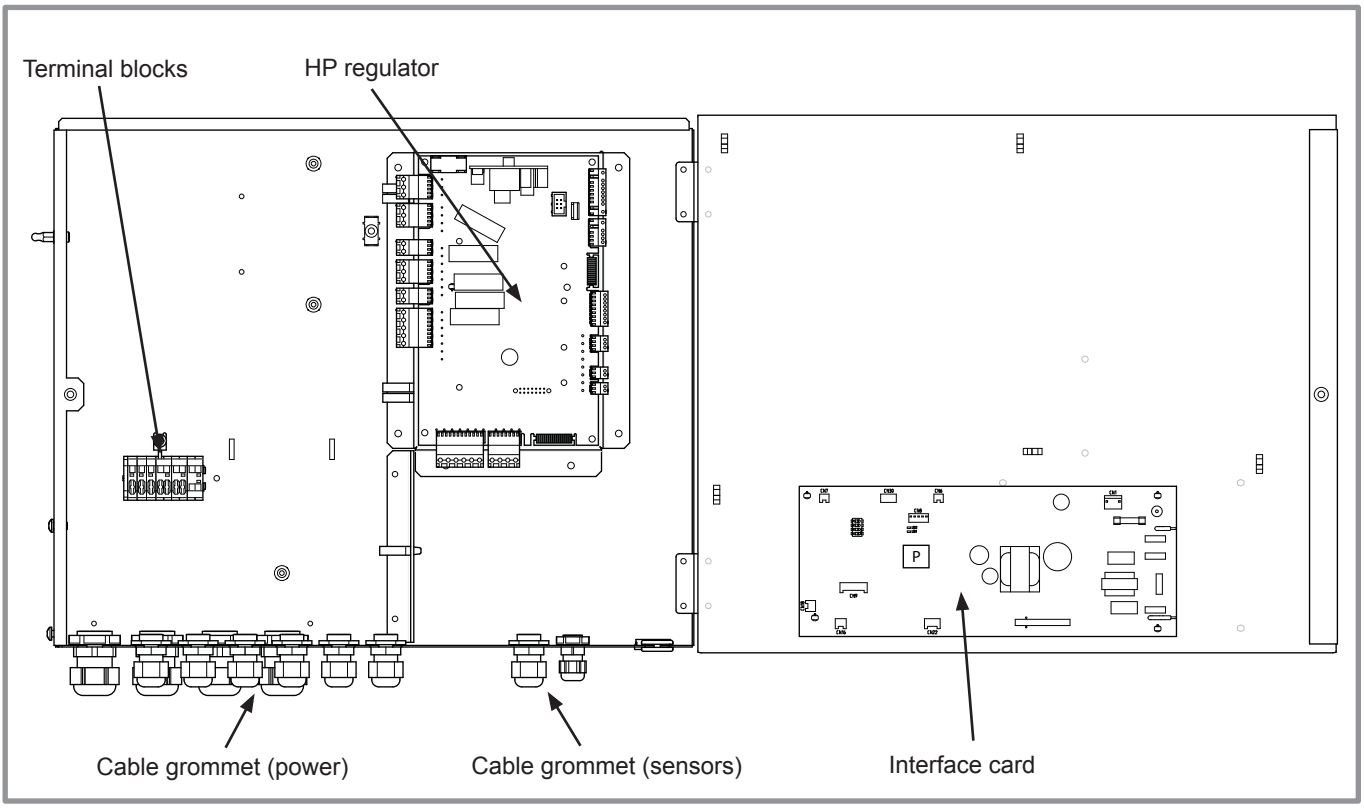


figure 29 - Access to hydraulic unit electric box and description

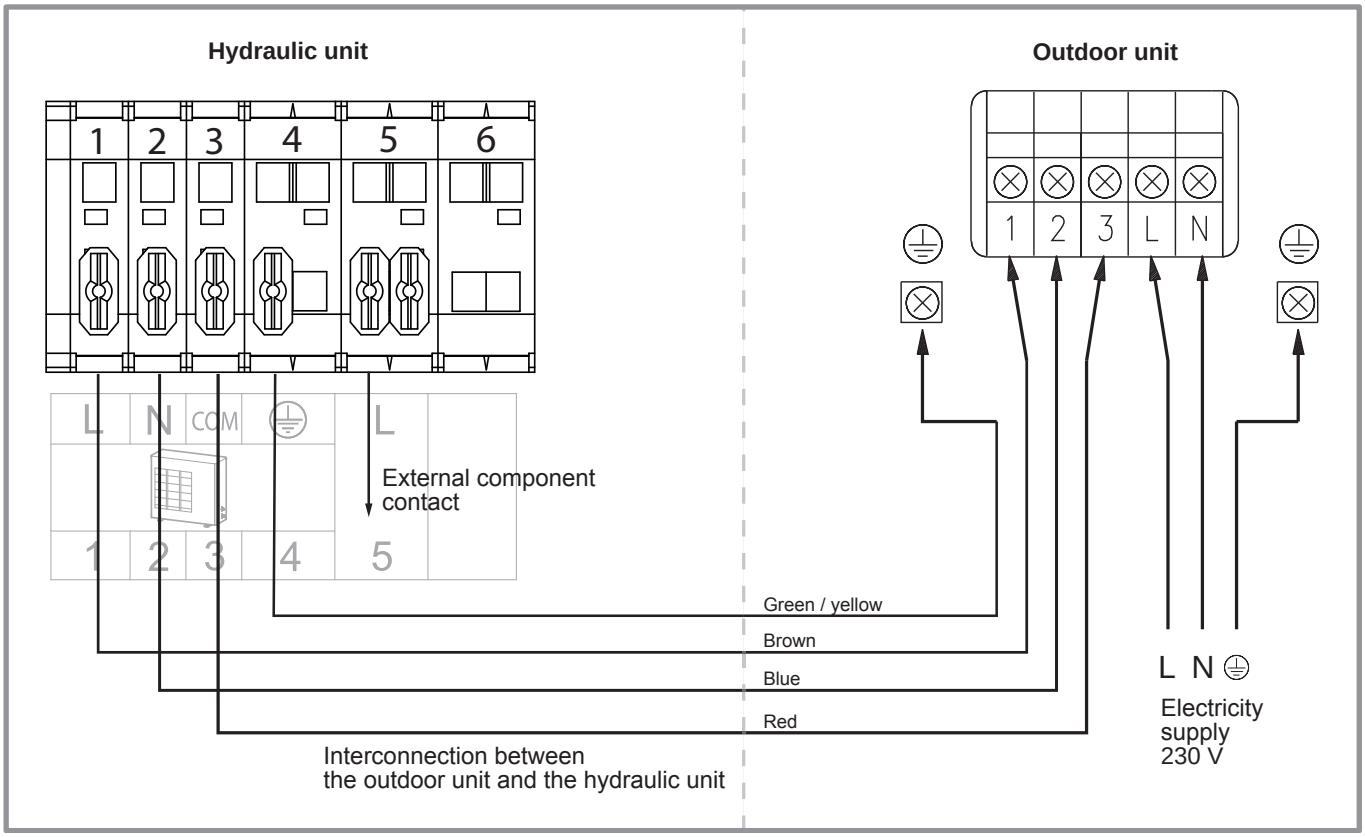


figure 30 - Connection to terminal block and power relays

• Interconnection between the outdoor unit and the hydraulic unit

Comply with the correspondence between the markings on the hydraulic unit's terminals and those on the outdoor unit when connecting the interconnection cables.

A connection error could cause the destruction of one or other of the units.

• Electric back-ups (option)

If the heat pump is not installed with a boiler connection:

Connect the electrical supply for the back-ups to the electrical panel.

• Boiler connection (option)

☞ **If the boiler connection option is used, the electric boost option must not be connected.**

- Please refer to the instructions supplied with the boiler connection kit.
- Please refer to the instructions supplied with the boiler.

• Domestic hot water tank (option)

If the installation is fitted with a DHW tank with electrical back-up heating:

- Please refer to the instructions supplied with the DHW kit.
- Please refer to the instructions supplied with the DHW tank.

• Contract with the power provider

The heat pump's operation can be controlled to suit special contracts (e.g. off-peak, day/night). In particular, domestic hot water (DHW) at Nominal temperature will be produced during the off-peak hours when electricity is cheaper.

- Connect the "Power Provider" contact to input EX2.
- Set the parameter 83 to "Off-peak hours".

• 230V on input EX5 = "Peak hours" information activated.

• Power shedding or EJP (peak day removal)

Power limitation is intended to reduce electrical consumption when this is too high compared to the contract with the power provider.

- Connect the power limiting device to input EX1, the back-ups for the heat pump and the DHW stop in the event of over-consumption by the dwelling.

• 230 V on input EX1 = power limitation in progress.

• External faults the heat pump

Any component of carryforward of information (thermostat, pressure switch, etc.) may signal an external problem and stop the heat pump.

- Connect the external component to input EX3.

• 230 V on input EX3 = stoppage of heat pump (the system displays Error 369).

- In the case of a heated floor; insert the heated floor thermal safety fuse son the binding of heating-cooling floor circulation pump.

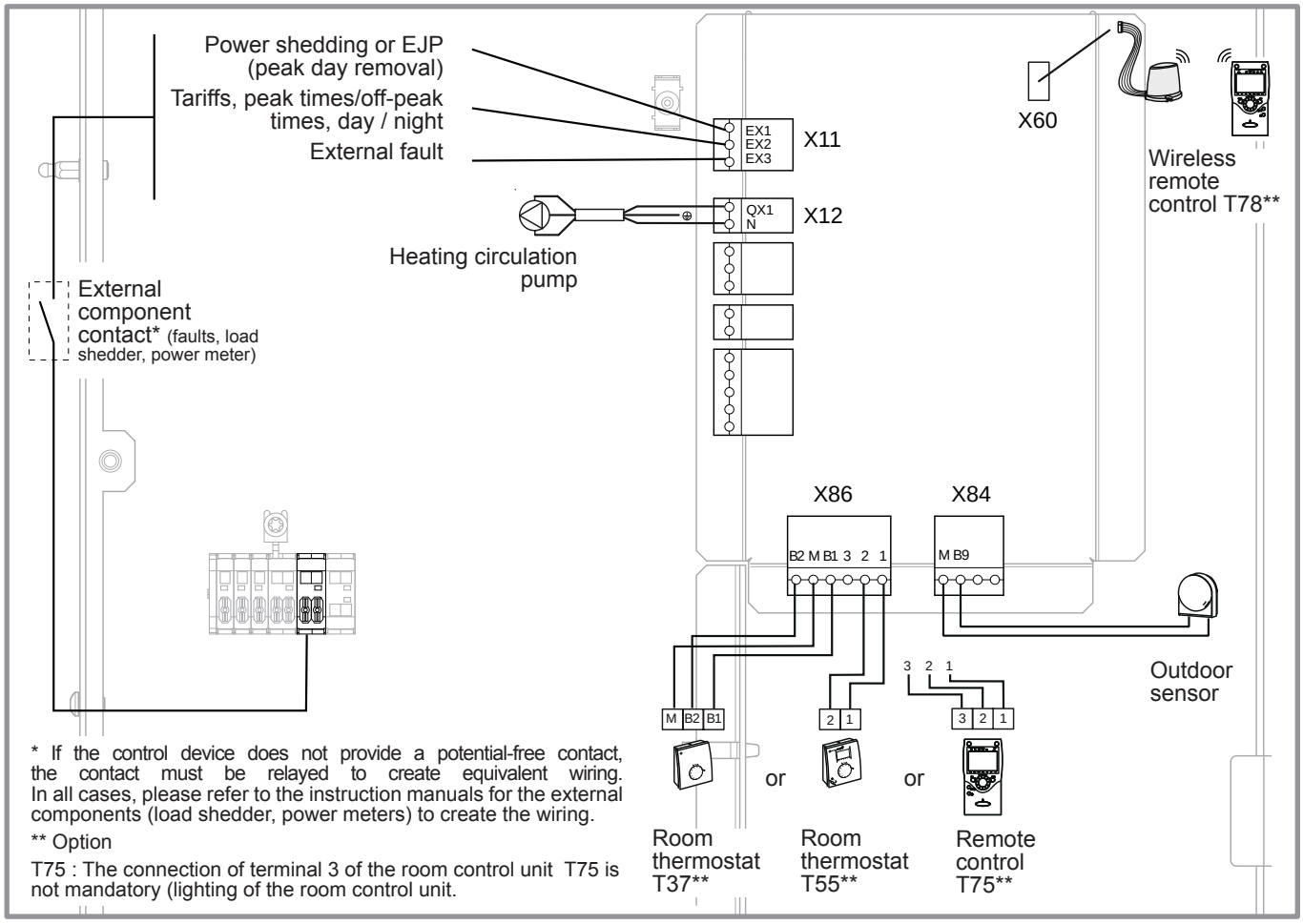

Power shedding or EJP (peak day removal)
Tariffs, peak times/off-peak times, day / night
External fault
EX1
EX2
EX3
X11
QX1
N
X12
Heating circulation pump
External component contact* (faults, load shedder, power meter)
X60
Wireless remote control T78**
X86
X84
B2 M B1 3 2 1
M B9
Outdoor sensor
M B2 B1
2 1
3 2 1
or
or
Room thermostat T37**
Room thermostat T55**
Remote control T75**
* If the control device does not provide a potential-free contact, the contact must be relayed to create equivalent wiring. In all cases, please refer to the instruction manuals for the external components (load shedder, power meters) to create the wiring.
** Option
T75 : The connection of terminal 3 of the room control unit T75 is not mandatory (lighting of the room control unit.

figure 31 - Connections to the heat pump regulator (accessories and options)

2.11 Outdoor sensor

The outdoor sensor is required for the heat pump to operate correctly.

Consult the fitting instructions on the packaging.

Place the sensor on the coldest part, generally the northern or north-eastern side.

In any case, it must not be exposed to the morning sun.

It must be installed so as to be easily accessible but at least 2,5m from the floor.

It is essential that it avoid any sources of heat such as flues, the upper parts of doors and windows, proximity to extraction vents, the underneath of balconies and under-eave areas which would isolate the sensor from variations in the outdoor air temperature.

- Connect the outdoor sensor to the **M** and **B9** terminals on the heat pump control board.

2.12 Room thermostat and/or remote control (option)

The room thermostat (room control unit) is optional.

Consult the fitting instructions on the packaging.

The sensor must be installed in the living room area on a very uncluttered wall. It must be installed so as to be easily accessible.

Avoid direct sources of heat (chimney/flue, television, cooking hobs), draughty areas (ventilation, door, etc.).

Air leaks in the seals in the constructions are often translated into cold air blowing through the electrical conduits. Lag the electrical conduits if there is a cold draught on the back of the room thermostat.

• Installation fitted with a room thermostat

- Connect the sensor to the **X86** connector of the heat pump's regulator board using the connector provided (terminals **M, B2, B1** for the room thermostat T37 or bor terminals nes **1**, **2** for the room thermostat T55).

• Installation fitted with a room control unit

- T75 : Connect the room control unit to terminals **1, 2, 3** of the connector **X86** on the heat pump's regulator board.
- T58 / T78 : Connect the wireless room / remote control panel to the connector **X60**.

2.13 Start-up

- Close the installation's main circuit breaker.

  On first commissioning (or in winter), in order to allow the compressor to pre-heat, engage the installation's main circuit breaker (power supply to the outdoor unit) some hours before starting up the tests.

- Engage the start/stop switch.

  To ensure that inputs EX1, EX2 and EX3 operate correctly: Check that the live-neutral polarity of the electrical supply is correct.

When the power is switched on and every time that the ON/OFF button is switched off and then switched on again, the outdoor unit will take approximately 4 minutes to start up, even if the setting is requesting heating.

The display can show error 370 when the appliance (re)starts. Do not be concerned, the communication between the outdoor and hydraulic unit will re-establish itself in a few moments.

While the regulator is being initialized the display first displays all symbols and then shows the time.

- Make all the specific adjustments to the setting (Installation configuration):

- Press and hold the i button for 3 seconds; the display will show “**On**”.

- Confirm with the key +/OK.

Parameter the heat pump's setting (consult the settings' list page 36).

The regulating system uses an average initial outdoor temperature of 0°C and requires some time to update this temperature.

To avoid this situation, the sensor must be connected correctly. Re-initialise parameter **74** ("Installer "level, "Heating adjustment " menu).

2.14 Configuring room thermostat

To configure the room thermostat and connect it to the appropriate heating zone:

- Hold down the presence key for more than 3 seconds. The room thermostat displays RU and a number flashes.
- Turn the wheel to choose the zone (1, 2).
- Hold down the presence key; the room thermostat displays P1 and a flashing number. 1 : Automatic recording: a correction of the setting with the button is adopted without any particular confirmation (timeout) or by pressing the mode key. 2 : Recording with confirmation: a correction of the setting with the button is not adopted until the mode key is pressed.
- Press the presence key again; the room thermostat displays P2 and a flashing number.

0 : OFF: all the operating elements are engaged.

1 : ON; the following operating elements are locked:

- Switching over the heating circuit's operating mode,
- Adjusting the comfort setting,
- Changing the operating level.

The room thermostat displays OFF for 3 seconds when a locked button is pressed.

2.15 Configuring remote control

During commissioning, after an initialisation period of approx. 3 minutes, the user’s language must be set :

- Press +/OK.
- Choose menu (Interface utilisateur/Operator section).
- Choose language (Langue/Language).

Select the language (**English**, Deutsch, Français, Italiano, Nederlands, Español, Português, Dansk…).

3 Regulation system

3.1 User interface

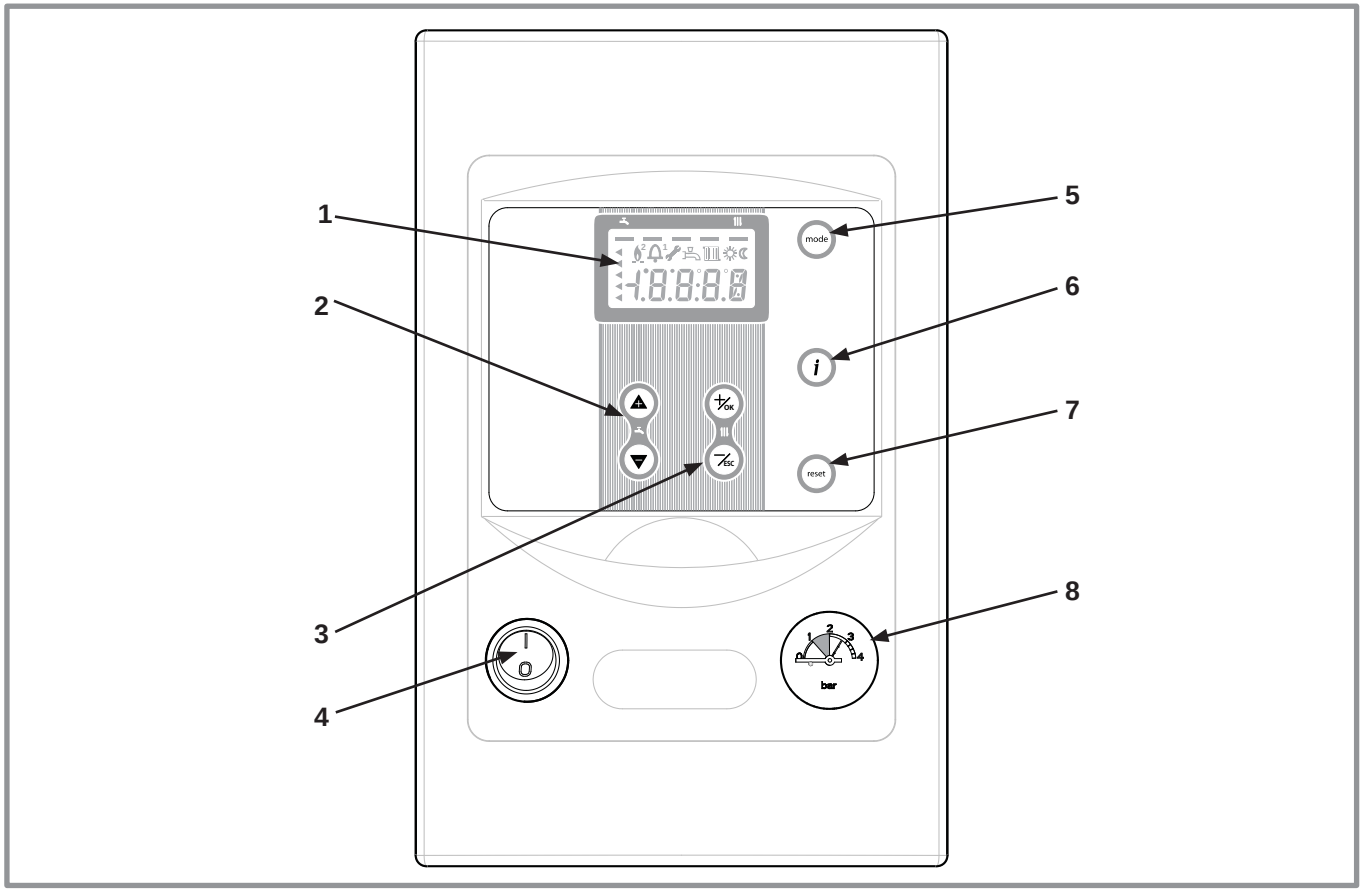


figure 32 - User interface

Ref.	*Function*	*- Definitions*
1	• Digital display	- Operating control, readout of the current temperature, of the heating mode and of any faults 🔔. - View the settings.
2	• Adjust comfort DHW setting • Cycles through information	- Adjust comfort DHW temperature setting using the ▲▼ buttons. - Cycles through settings (after pressing and holding **+/OK** for 3 seconds).
3	• Adjust comfort heating setting • Confirm settings • Cancel settings	- Adjust comfort heating temperature setting using the **+/OK** and **-/ESC** buttons. - Enter (**+/OK**) selected menu. - Confirm (**+/OK**) adjustment of settings in programming mode. - Exit/cancel (**-/ESC**) in programming mode.
4	• I/0	- On/Off button for the hydraulic module (and the heat pump).
5	• Mode	- Select heating and/or DHW mode(s). - Manual start button in DHW comfort mode : Hold down the DHW key for 3 seconds. Switch from "reduced" to "nominal" until the next time the DHW timer switches over..
6	• Information	- Various data (see page page 39). - 🔔 Reading error codesr (see page 48). - 🔧 Information concerning maintenance, special mode.
7	• RESET button (Hold down the "RESET" key for 3 sec)	- Reinitialising the parameters and cancelling error messages. **Do not use during normal operation**
8	• Manometer	- Heating hydraulic circuit pressure.

3.2 Room control unit and room thermostat (option)

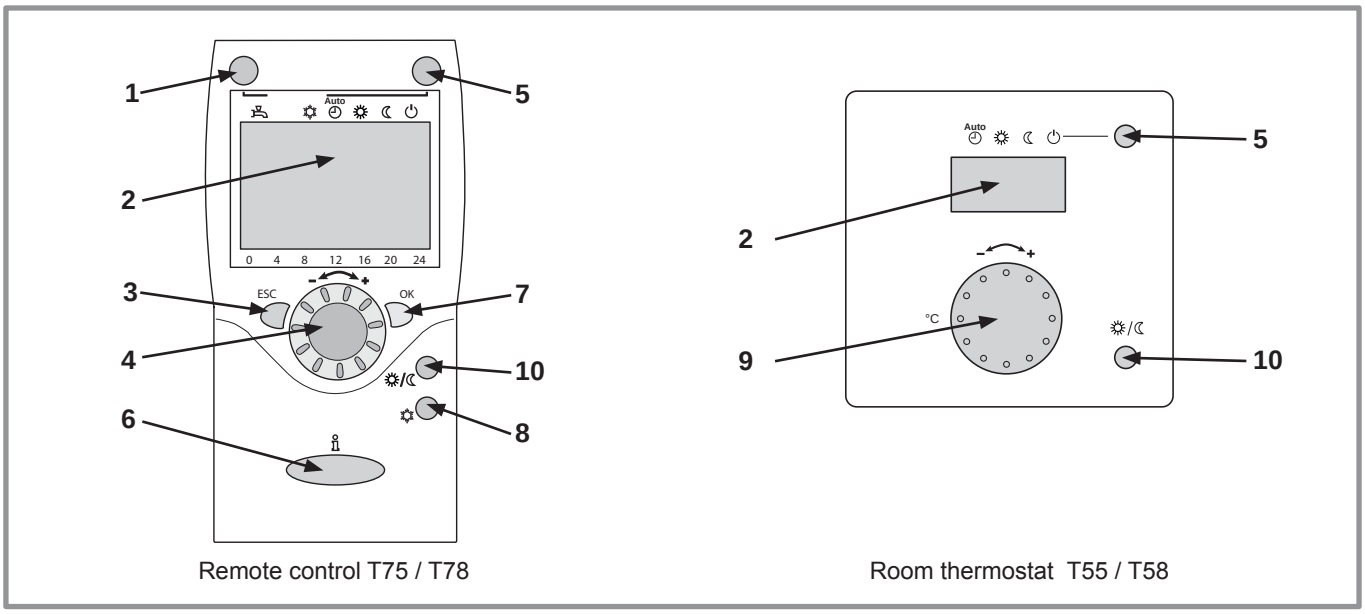


figure 33 - Room control unit and room thermostat (option)

Ref.	*Function*	*- Definitions*
1	• Selecting the DHW operating mode On Off	- If the installation is fitted with a DHW tank. - **On**: Production of DHW according to the time program. - **Off**: Preparing the domestic hot water for stopping with the anti-frost function active. - **Manual start button**: Hold down the DHW key for 3 seconds. Switch from "reduced" to "nominal" until the next time the DHW timer switches over.
2	• Digital display	- Operating control, readout of the current temperature, of the heating mode and of any faults . - View the settings.
3	• Exit "ESC"	- Quit the menu.
4	• Navigation and setting	- Selecting the menu. - Setting parameters. - Adjusting the ambient temperature setpoint.
5	• Selecting the heating mode	- Auto Heating operating according to the heating programme (Summer/winter mode switchover is automatic). - Constant comfort temperature. - Constant reduced temperature. - Stand-by mode with anti-frost protection (Provided that the heat pump's electrical power supply is not interrupted).
6	• Information display	- Various data (see page page 39). - Reading error codes (see page page 48). - Information concerning maintenance, special mode.
7	• Confirm "OK"	- Input into the selected menu. - Confirmation of the parameter settings. - Confirmation of the adjustment to the comfort temperature setting.
8	• Function not activated	
9	• Control knob	- Adjusting the ambient temperature setpoint.
10	• Presence key	- Comfort / Reduced switchover.

3.3 Temperature control

The heat pump's operation is subject to the temperature control.

The set temperature for the water in the heating circuit is adjusted according to the outdoor temperature.

The temperature control may be chosen automatically by the machine (self-adaptation /parameter 72) or set manually by the installer (parameters 66).

If there are thermostatic valves on the installation, these must be fully open or adjusted for higher than the normal set temperature.

3.3.1 Manual adjustment

During installation, the temperature control must be parametered according to the heat emitters and the dwelling's insulation.

The temperature control' curves (figure 34) refer to an ambient setting of 20°C.

The slope of the temperature control (parameter 66) determines the impact of the variations in the outdoor temperature on the initial heating temperature variations.

The off-set in the temperature control (parameter 68) modifies the initial temperature of all the curves, without modification of the slope (figure 35).

The corrective actions in the case of any inconvenience are detailed in the table (figure 36).

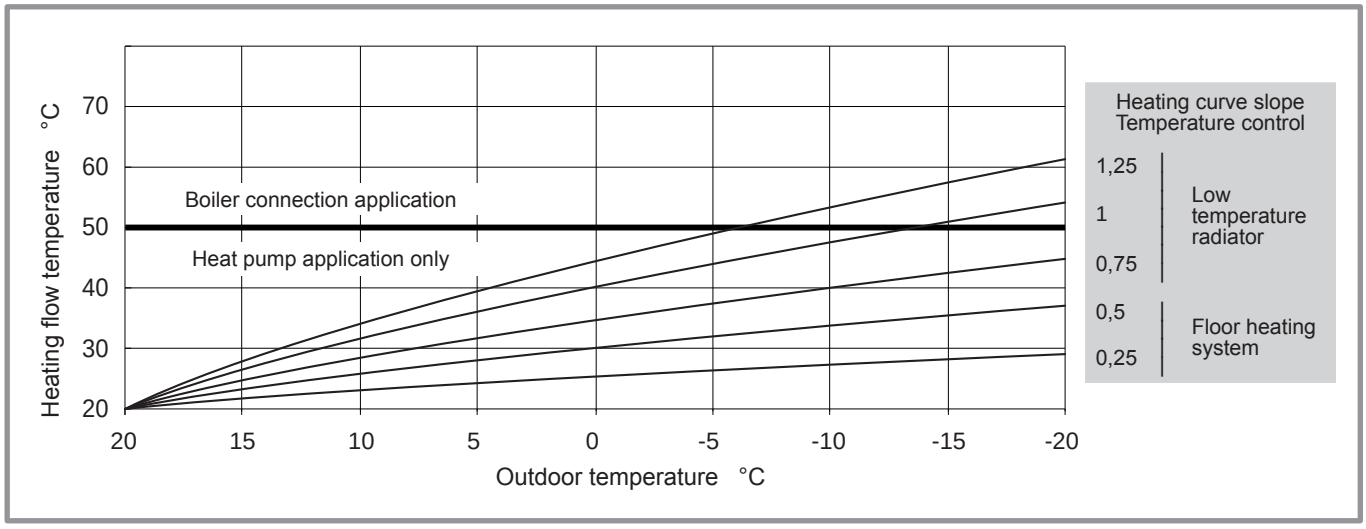


figure 34 - Heating curve slope (line 66)

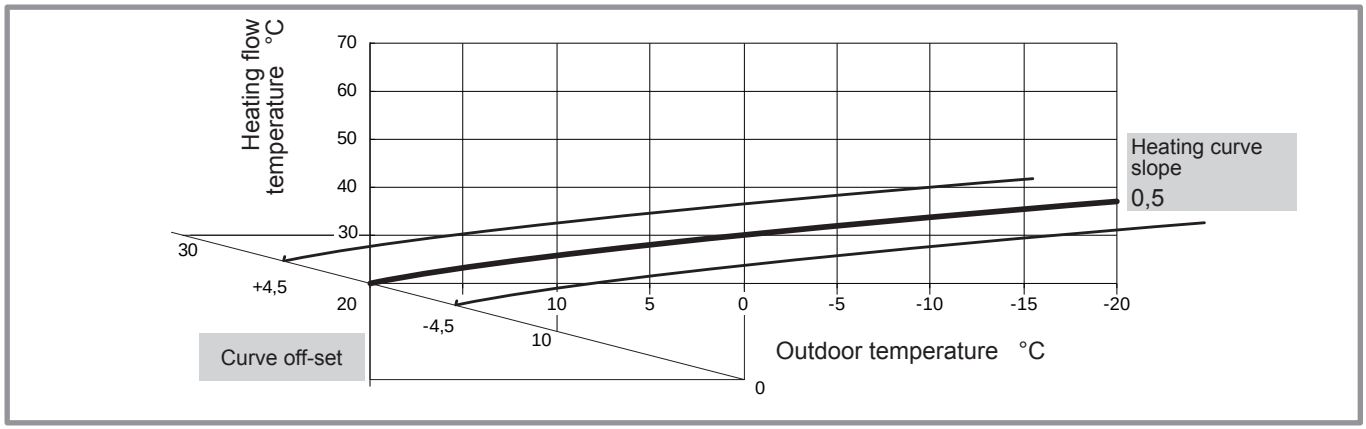


figure 35 - Heating curve displacement (line 68)

Sensations...			→	Corrective actions on the temperature control :	
...in mild weather		...in cold weather		Curve slope (line **66**)	Curve off-set (line **68**)
OK	&	OK	→	No correction	No correction
Cold	&	Hot	→	−	+
Cold	&	OK	→	−	+
Cold	&	Cold	→	No correction	+
OK	&	Hot	→	−	No correction
OK	&	Cold	→	+	No correction
Hot	&	Hot	→	No correction	−
Hot	&	OK	→	+	−
Hot	&	Cold	→	+	−

figure 36 - Corrective actions in the case of discomfort

3.4 Parametering the setting

3.4.1 General

Only the parameters accessible to levels:

U – End user.

I – Commissioning level.

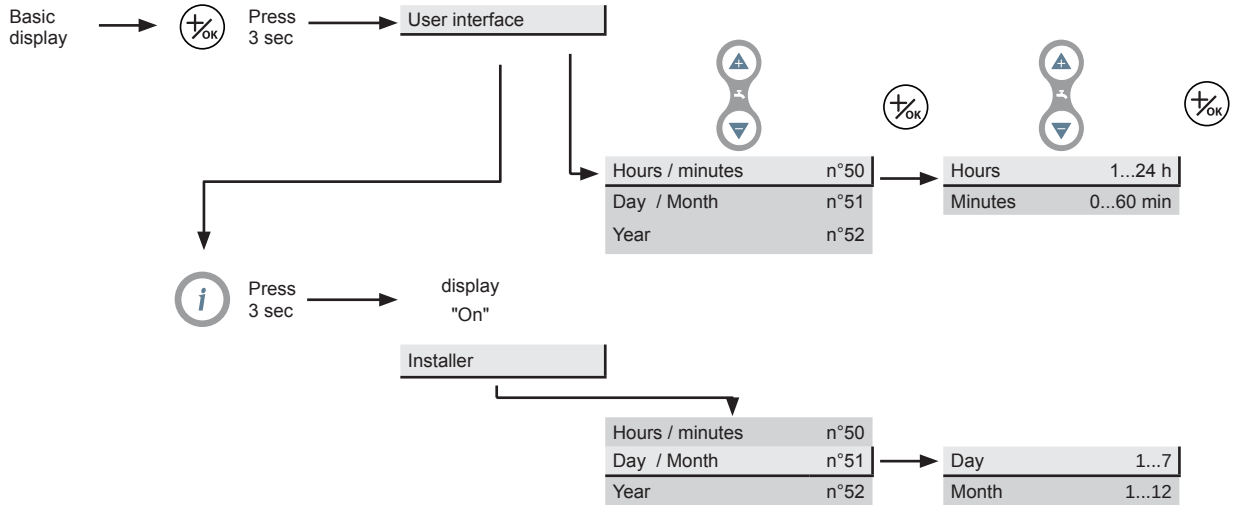
are described in this document.

The access levels are specified in the second column of the table by means of the letters **U** and **I**.

The advanced settings can only be accessed using supplementary interfaces such as the (optional) room control unit.

3.4.2 Setting parameters

- Choose the desired level (**U** or **I**).
- Scroll the menu list (**n°...**).
- Choose the desired menu.
- Adjust the parameter.
- Check the setting by pressing OK.
- To return the menu, press ESC.
- If no setting is made for 8 minutes, the screen returns automatically to the basic display.



3.4.3 List of function lines (settings, diagnosis, status)

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
Time and date					
50	**U**	Hours / minutes	00:00... 23:59	1	**1:00**
51	**U**	Day / month	01.01... 31.12	1	**1.01**
52	**U**	Year	2004... 2099	1	**2004**
57	**I**	Software version	0...99.9	1	**-**
Heating time program					
58	**U**	Pre-selection (day / week)	1-7 : Mon-Sun, 1-5 : Mon-Fri, 6-7 : Sat-Sun, 1 : Monday, ... , 6 : Sathurdayi, 7 : Sunday		**1-7**
59	**U**	1st phase On (start)	00:00... 24:00	10 min	**6:00**
60	**U**	1st phase Off (end)	00:00... 24:00	10 min	**22:00**
61	**U**	2nd phase On (start)	00:00... 24:00	10 min	**--:--**
62	**U**	2nd phase Off (end)	00:00... 24:00	10 min	**--:--**
63	**U**	3rd phase On (start)	00:00... 24:00	10 min	**--:--**
64	**U**	3rd phase Off (end)	00:00... 24:00	10 min	**--:--**

Line		Function	Setting range or display	Setting increment	Basic setting
Heating adjustment					
65	**U**	Reduced setpoint	frost protection setpoint (67)… comfort setpoint	0,5 °C	**19 °C**
66	**I**	Heating curve slope see figure 34.	0,1... 4	0,02 °C	**0,5 °C**
67	**U**	Frost protection setpoint	4 °C… reduced setpoint	0,5 °C	**8 °C**
68	**I**	Heating curve displacement	-4,5 °C... 4,5 °C	0,5 °C	**0 °C**
69	**I**	Summer/Winter heating limits	8 °C... 30 °C	0,5 °C	**18 °C**
		When the average of the outdoor temperatures over the past 24 hours reaches 18°C, the regulator switches off the heating (as an economy measure).			
70	**I**	Flow temp. setpoint maxi	8... 95 °C	1 °C	**55 °C**
		Floor heating system = 50 °C. **Remark** : Maximum temperature limitation is not a safety function as required by ground heating.			
71	**I**	Flow temp. setpoint mini	8... 95 °C	1 °C	**8 °C**
72	**I**	Function not used			**-**
73	**I**	Room influence	1 %... 100 %	1 %	**50 %**
		If the installation is fitted with an room sensor: This function enables you to choose the ambient temperature's influence on the setting. If no value is entered, the setting is made based on the outdoor temperature. If the parameter is set at 100%, the setting is only based on the ambient temperature.			
74	**I**	Mean outside temperature	-50... 50 °C		**-**
		Reset : Press the button (**+/OK**) 2 times.			
		This is the average of the outdoor temperature over a 24-hour period. This value is used for automatic Summer / Winter switchover (line 69).			
DHW setting (domestic hot water) (Only with the DHW kit option)					
75	**U**	Pre-selection (day / week)	1-7 : Mon-Sun, 1-5 : Mon-Fri, 6-7 : Sat-Sun, 1 : Monday, ... , 6 : Sathurdayi, 7 : Sunday		**1-7**
76	**U**	1st phase On (start)	00:00... 24:00	10 min	**0:00**
77	**U**	1st phase Off (end)	00:00... 24:00	10 min	**5:00**
78	**U**	2nd phase On (start)	00:00... 24:00	10 min	**14:30**
79	**U**	2nd phase Off (end)	00:00... 24:00	10 min	**17:00**
80	**U**	3rd phase On (start)	00:00... 24:00	10 min	**--:--**
81	**U**	3rd phase Off (end)	00:00... 24:00	10 min	**--:--**
82	**I**	Lower DHW temperature setting	8 °C... Nominal setting	1	**40 °C**
83	**I**	DHW release	0 : 24h/day, 1 : Time programs HCs, 2 : Time program /DHW, 3 : Low-tariff, 4 : T'prog /DHW or low-tariff		**2**
		(0) 24h/day : The temperature of the DHW is constantly maintained at the DHW nominal setting.			
		(1) Time programs HCs : The DHW is produced according to the programming for the ambient temperature (with 1 hour in advance when switched on).			
		(2) Time program /DHW : The DHW programme is separate form the heating circuit programme.			
		(3) Low-tariff * : The electrical backup heating is only authorised to operate during the off-peak period.			
		(4) T'prog /DHW or low-tariff * : The electrical backup heating is authorised to operate during the nominal period or off-peak.			
		***** - Connect the "Power Provider" contact to input EX2 (E5). (see figure 31, page 29). In the case of a day /night contract, the electric back-ups for the DHW tank are subject to the power supplier's tariffs. Switching on the electric back-up for the DHW tank is only authorised during off-peak hours.			

Line		*Function*	*Setting range or display*	*Setting increment*	*Basic setting*
84	I	Legionella function	0 : Off, 1 : Periodic, 2 : Set day of the week		**0**
85	I	Electrical resistance release	1 : 24h/day, 2 : DHW release, 3 : Time program 4/DHW		**2**
Heat pump					
86	I	Release el flow below OT (Electrical release - start-up with outdoor temperature)	-30... 30 °C		**2 °C**
87	I	With electrical utility lock (EX1)	0 : Locked (Blocked on standby), 1 : Released		**1**
		Released : HP = On _ Back-up DHW = Off_ 1st back-up HP = Off _ 2nd back-up HP = Off _ Boiler = On **Locked (Blocked on standby) :** HP = Off _ Back-up DHW = Off _ 1st back-up HP = Off _ 2nd back-up HP = Off _ Boiler = On			
Additional generator (Boiler connection)					
88	I	Release under outdoor temperature	-50... 50 °C	0,5 °C	**2 °C**
89	I	Overrun time	0... 120 min	1 min	**20 min**
Installation configuration					
90	I	Pre-setting	1,2,3,... 12	1	**1**
		This control enables you to choose one of the (4-8) pre-selected installation configurations. The hydraulic layouts for the various configurations are detailed in the section: "Installation Configurations". - Pre-setting 1 : 1 heating circuit with or without electric back-up, with or without DHW. - Pre-setting 2 : not used. - Pre-setting 3 : Boiler connection, 1 heating circuit with or without DHW. - Pre-setting 4 & more : not used.			
91	I	Selection of type of electric boost			
92	I	Release integr electric flow	0... 500 °Cmin	1 °Cmin	**100 °Cmin**
93	I	Switching integral (for boiler relief)	0... 120 °Cmin	1 °Cmin	**100 °Cmin**
94	I	Reset to default parameters	0 : No, 1 : Yes		**0**
95	I	Emergency operation	0 : Off, 1 : On		**0**
		Off : HP functions normally (with boosters if necessary). On : HP uses the electric boost system or the boiler connection. Use the “On” position only in Assist mode or Test mode: may result in high power bills.			
96	I	Emergency operating function type	1 : Manual, 2 : Automatic		**1**
		Emergency mode is not active when a fault occurs (Emergency mode = Off). Automatic : Emergency mode is active when a fault occurs (Emergency mode = On). In "Automatic" position, the energy cost can be onerous if the error is not detected and eliminated.			
97	I	Simulation outdoor temp	-50... 50 °C	0,5	**--**
Inputs / outputs test					
98	I	Relay test			**0**
		This consists of instructing the regulator's relays one by one and checking their outputs. This enables you to check that the relays are working and that the cabling is correct. Check that each appliance in the installation is operating correctly. (0) No test, (1) Everything is on STOP, (2) Relay output QX1 : heat pump CC1 (Main regulation board), (3) Relay output QX2 : Electrical back-up (1st stage) or Boiler connection distribution valve, (4) Relay output QX3 : Electrical back-up (2nd stage) or Boiler connection contact, (5) Relay output QX4 : DHW distribution valve, (6) Relay output QX5 : DHW Electrical back-up, (7) Relay output QX6 , (8) Relay output QX31 : Heat circ mix valve open Y1, (9) Relay output QX32 : Heat circ mix valve close Y2, (10) Relay output QX33 : heat pump CC2, (11) Relay output QX34, (12) Relay output QX35 : Swimming pool distribution valve, (13) Relay output QX21 module 1, (14) Relay output QX22 module 1, (15) Relay output QX23 module 1, (16) Relay output QX21 module 2, (17) Relay output QX22 module 2, (18) Relay output QX23 module 2, (19) Not used, (20) Not used, (21) Not used.			
		The display shows the “Key” symbol. **Warning: The component being tested is receiving electrical power throughout the test.**			
99	I	Output Ux test	0... 100%	1	**--**

3.5 Information display

Various data can be displayed by pressing the info button.

Depending on the type of unit, configuration and operating state, some of the info lines listed below may not appear.

- Possible error messages from the error code list (see table, page 48).
- Possible service messages from the maintenance code list.
- Possible special mode messages.
- Various data (see below).

Line	*Designation*
1	Time.
2	Room temperature.
3	Outdoor temperature.
4	DHW temperature.
5	HP flow temperature.
6	HP return temperature.
7	Setpoint HP (flow).
8	Room setpoint.
9	Outdoor temp composite.
11	State heat pump.
12	Heat pump power modulation,% .
13	State supplementary source.
14	State DHW.
15	State heating circuit.
16	Function not used

3.5.1 Status list

Nr	*Designation*
State heating circuit (line15)	
4	Active manual intervention.
24	Frost protection active.
25	Off.
102	Controlled active drying.
106	Restriction of heating regime.
110	Forced draught.
114	Heating regime, comfort.
116	Heating regime, low.
118	Summer regime.
State DHW (line 14) (if DHW kit)	
4	Active manual intervention.
17	Delayed power-cut response active.
24	Frost protection active.
25	Off.
53	Adiabatic cooling active.
66	Electrical resistance load.
67	Forced load active.
69	Load active.
75	Under load.
82	Load locking active.
94	Accelerated load active.
199	Fluid decanting regime.
200	Ready.
201	Load on standby.

Nr	*Designation*
State heat pump (line 11)	
2	Fault.
10	Locked.
24	Frost protection active.
25	Off.
26	Emergency operation.
37	Time limit active.
125	Defrost activated.
127	Active cooling regime.
128	Passive cooling regime.
137	Heating.

4 Installation configuration

☞ **Optional DHW kit**

DHW tank control (with electrical back-up) requires the use of the DHW kit. Please refer to section "Operating principle", page 10.

Warning ! The DHW tank must be fitted with an electrical back-up, particularly for anti-legionella cycles.

☞ **Optional boiler connection kit**

The connection of an oil or gas boiler to the heat pump requires the installation of the boiler connection kit.

☞ **Optional electrical back-ups kit**

The hydraulic module may be fitted with an electrical back-ups kit.

4.1 Configuration 1 or 3 :

☞ **Parameter 90.**

Configuration 1 : 1 heating circuit with or without electrical back-up (see page 42);
and : 1 heating circuit with or without electrical back-up, with DHW tank (voir schéma page 43).
Configuration 3 : Boiler connection, 1 heating circuit (see "boiler connection kit" manual);
and : Boiler connection, 1 heating circuit with DHW tank (see "boiler connection kit" manual).

- Additional electrical heating can only be managed with the heat pump electrical back-ups kit.
- DHW tank control (with electrical back-up) requires the use of the DHW kit.
- The management of a boiler is required to install a boiler connection kit.

4.1.1 Hydraulic connections

☞ **if boiler connection**

• Removing the boiler's circulation pump.
• For boilers where the heating system's circulation pump has not been removed, a disconnection bottle must be installed.
• Install the elements from the boiler connection kit.

☞ **In the case of a mixed DHW tank**

• Install the distribution valve on the heating circuit.

4.1.2 Electrical connections

• **1** - Power supply to outdoor unit.
Please refer to section "Electrical connections on the outdoor unit side".
• **2** - Interconnection between the outdoor unit and the hydraulic unit.
• **3** - Outdoor sensor.
• **4** - Room thermostat and/or room control unit (option).
• **5** - Contract with the power provider. Connect the "Power Provider" contact to input EX2.

☞ ***if electric back-ups***

See the user instructions provided with the electrical back-ups kit.

• **6** - Power supply to the electrical back-ups : Connect the power supply of the heat pump's electrical back-ups to the mains supply board.

☞ **In the case of a mixed DHW tank**

Please refer to the instructions supplied with the DHW kit.

• **7** - Connect the distribution valve.
• **8** - Connect the DHW sensor to the heat pump's regulator board.
• **9** - Connect the back-up resistance.
• **10** - Connect the power supply of the DHW heating back-up to the mains supply board.

☞ **if boiler connection**

Please refer to the instructions supplied with the boiler connection kit.

• **15** - Distribution valve (deviation boiler).
• **16** - Boiler supply (or if used with room thermostat, connect a relay for control boiler).
• **17** - Move the low-temperature sensor to the low-temperature point on the boiler connection.

☞ **In the case of a heated floor**

Heated floor thermal safety fuse.

• **20** - The installer is responsible for connecting the heated floor's safety system. Thermal safety will stop the heat pump if the temperature in the floor is too high.

4.1.3 Parametering the setting

• Adjust the configuration: **1** or **3** (line **90**).
• Adjust the DHW programme (lines **82-83-84** & **85**).
• Adjust the heating curve slope (line **66**).

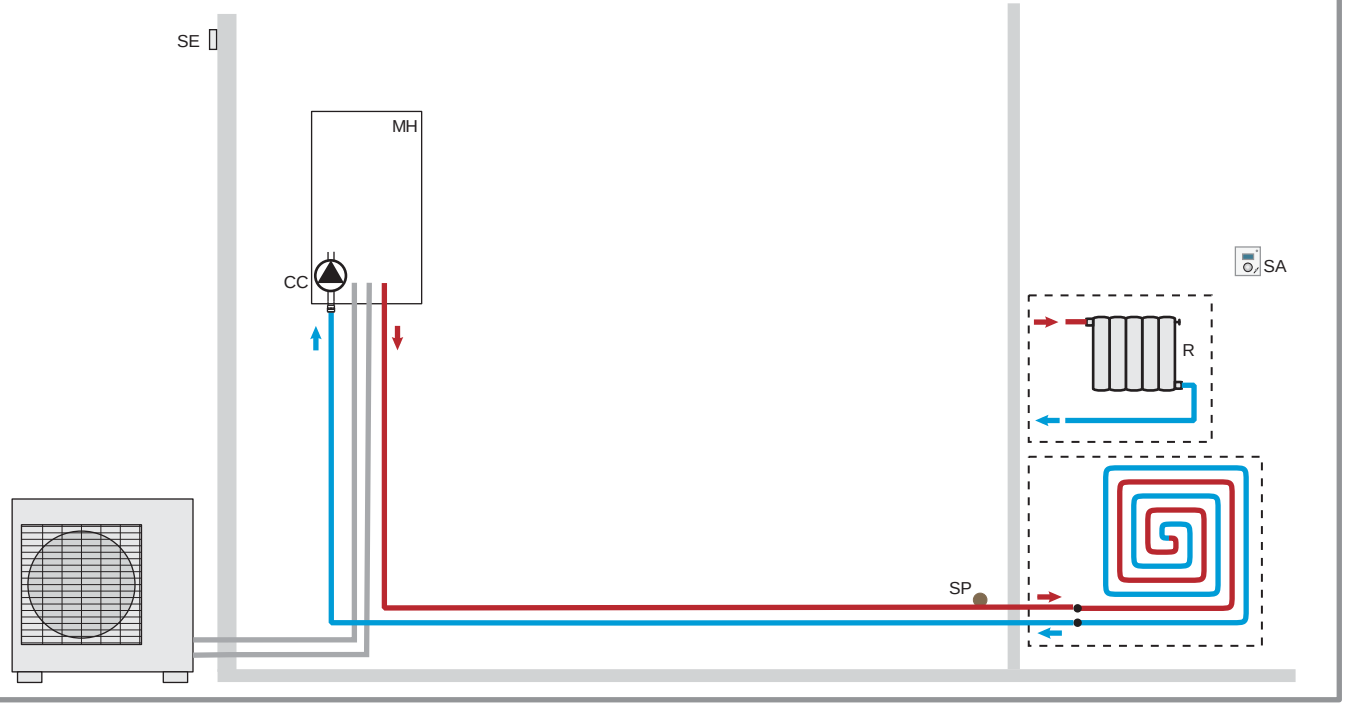
4.1.4 Special cases

Please consult us regarding any other installation configuration.

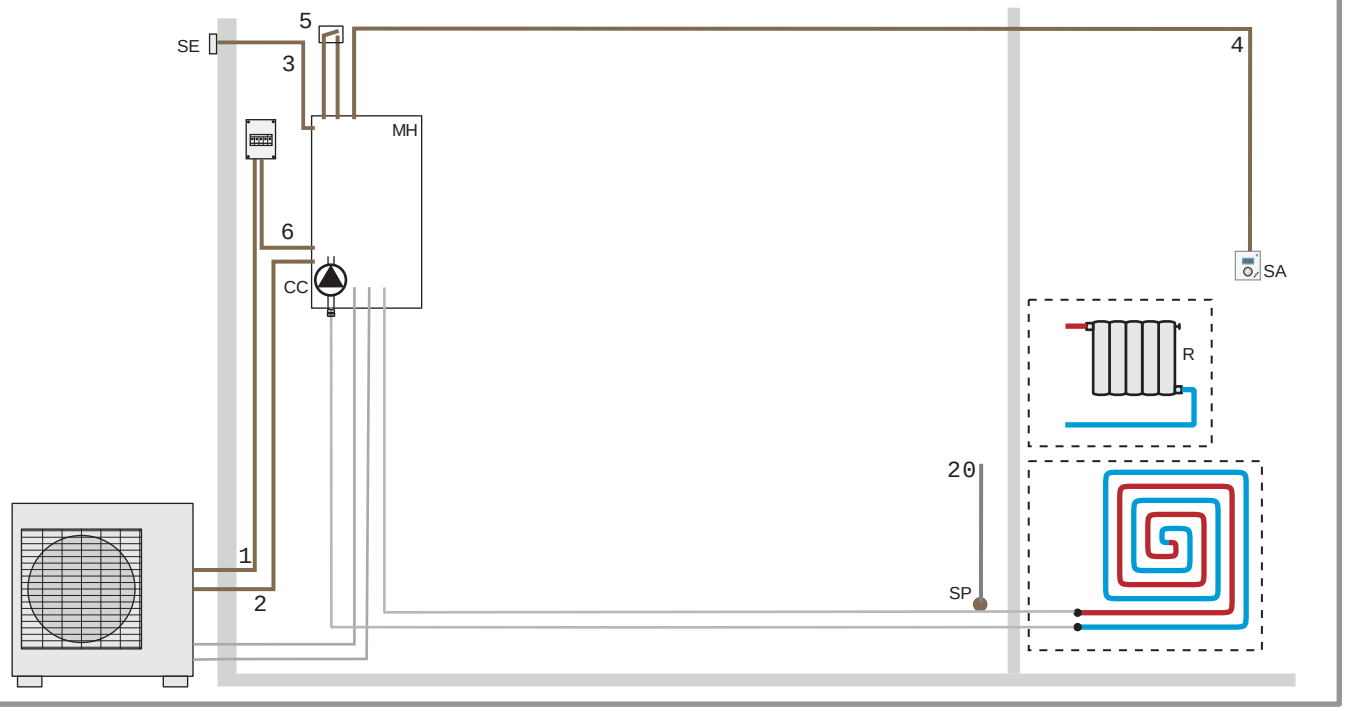
Configuration 1 :
1 heating circuit

☞ See detailed instructions on page 41.

Overall hydraulic layout



Overview of all the electrical connections



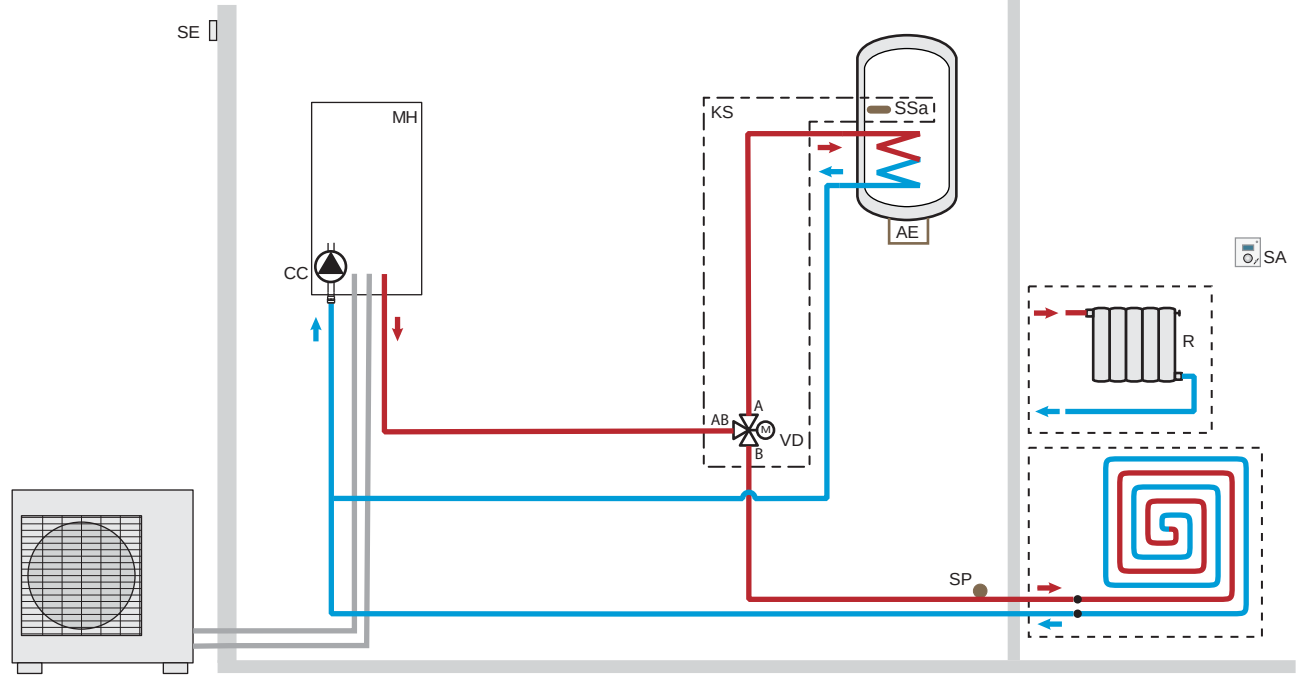
Legend

CC - Heating circulation pump
MH - Hydraulic unit
R - Radiators (or fan convectors)
SA - Room thermostat or room control unit (option)
SE - Outdoor sensor
SP - Heated floor thermal safety fuse

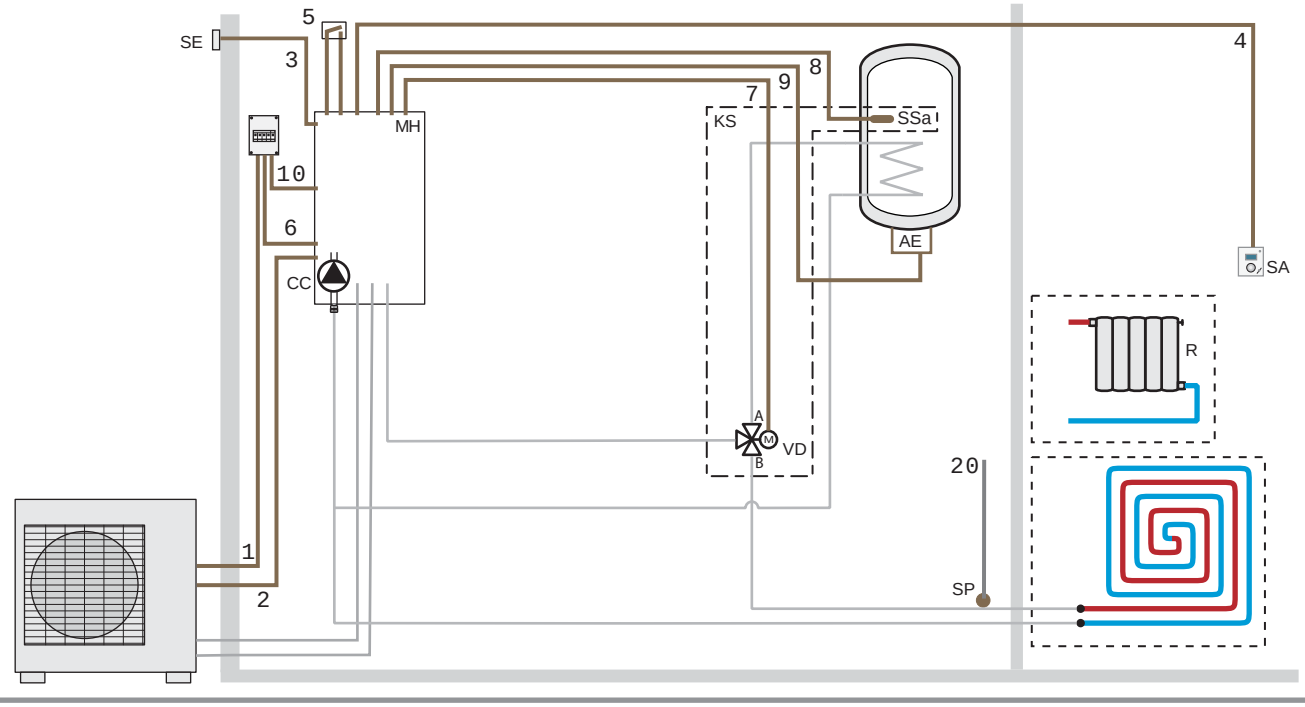
Configuration 1 :
1 heating circuit and DHW tank

☞ See detailed instructions on page 41.

Overall hydraulic layout



Overview of all the electrical connections



Legend

AE - Electrical back-up
CC - Heating circulation pump
KS - DHW kit
MH - Hydraulic unit
R - Radiators (or fan convectors)
SA - Room thermostat or room control unit (option)
SE - Outdoor sensor
SP - Heated floor thermal safety fuse
SSa - DHW sensor
VD - Distribution valve

5 Electrical wiring diagrams

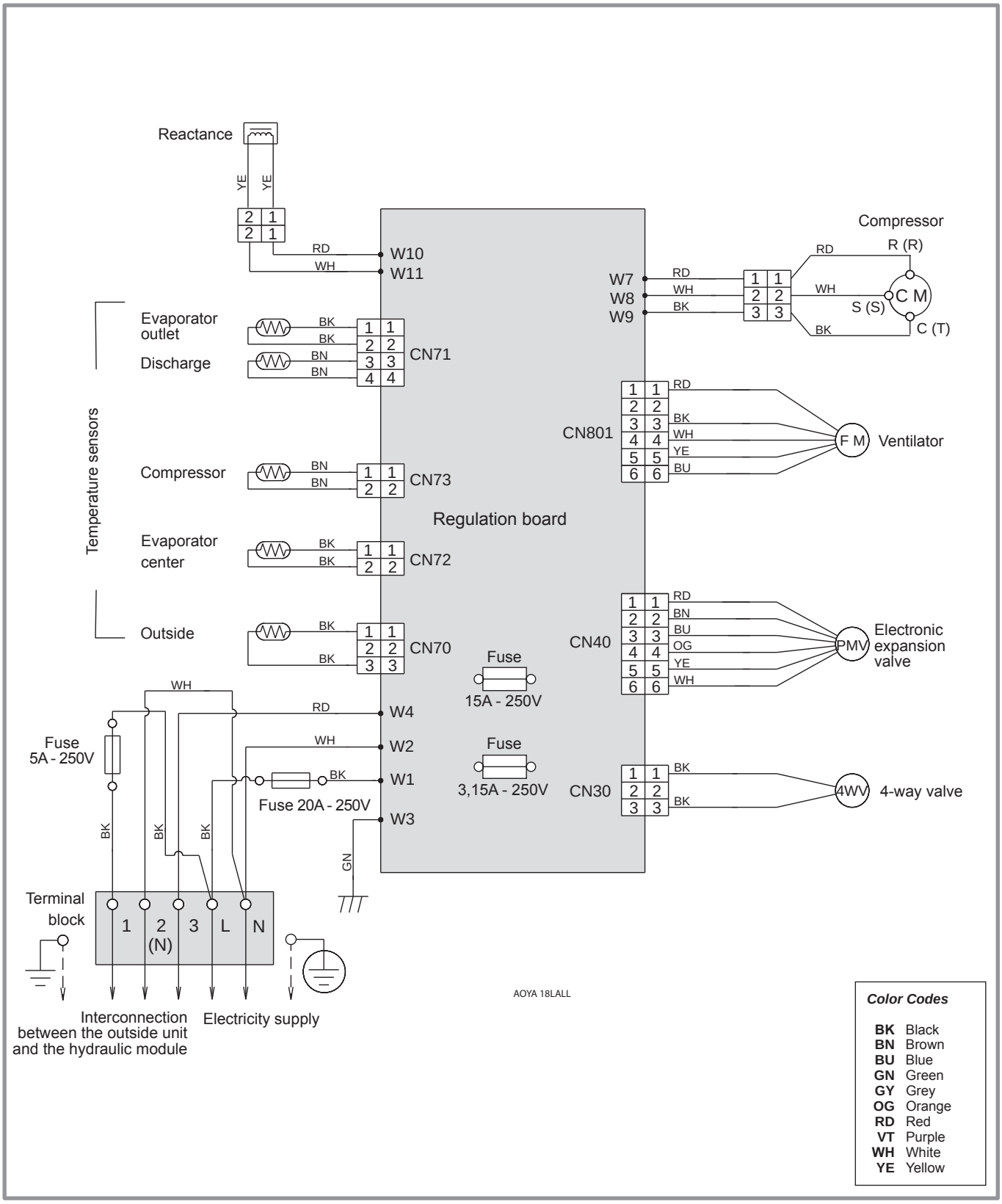


figure 37 - Electrical wiring Outdoor unit Model Evolution 5, Evolution 6, Evolution 8

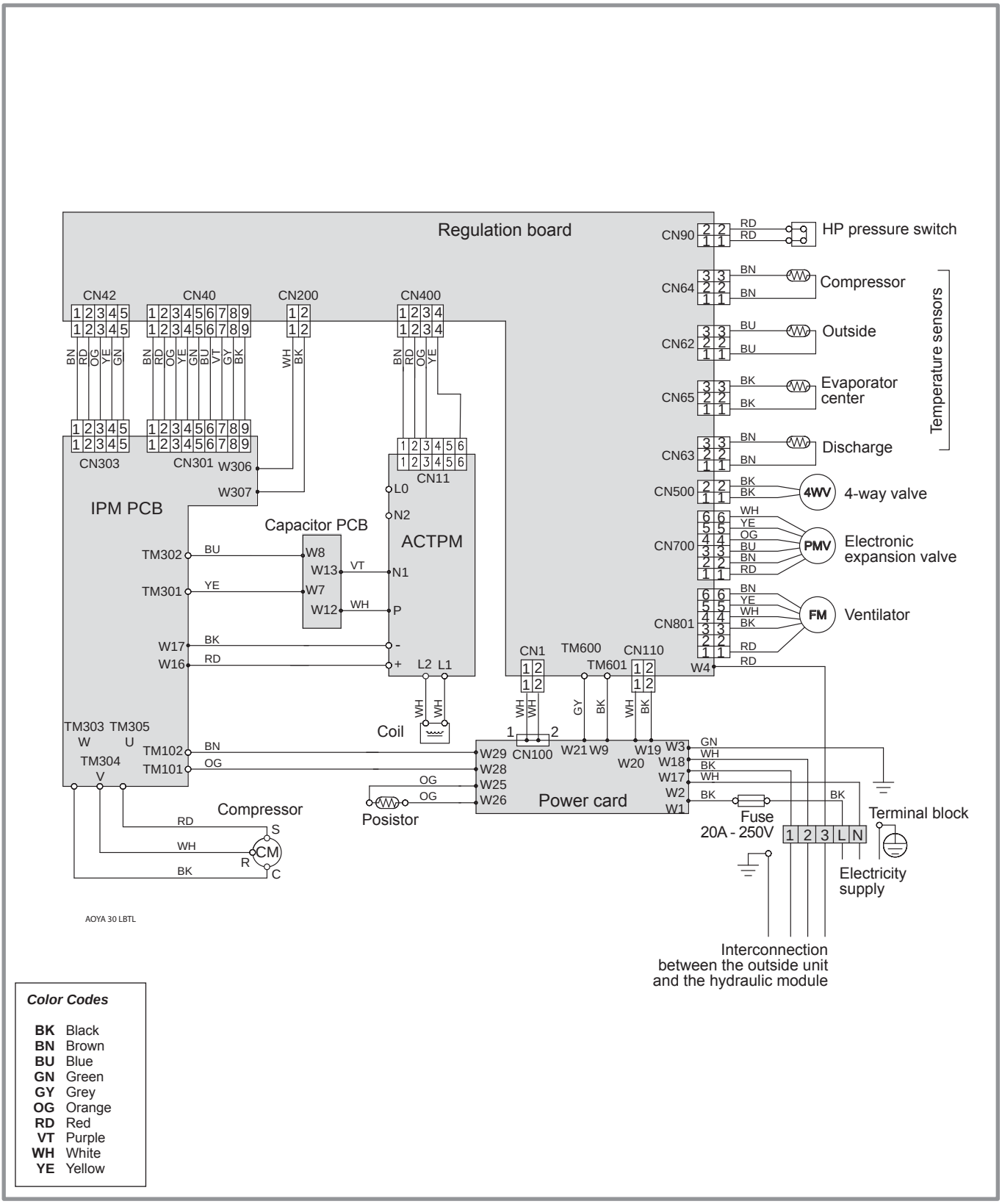


figure 38 - Electrical wiring Outdoor unit Model Evolution 10

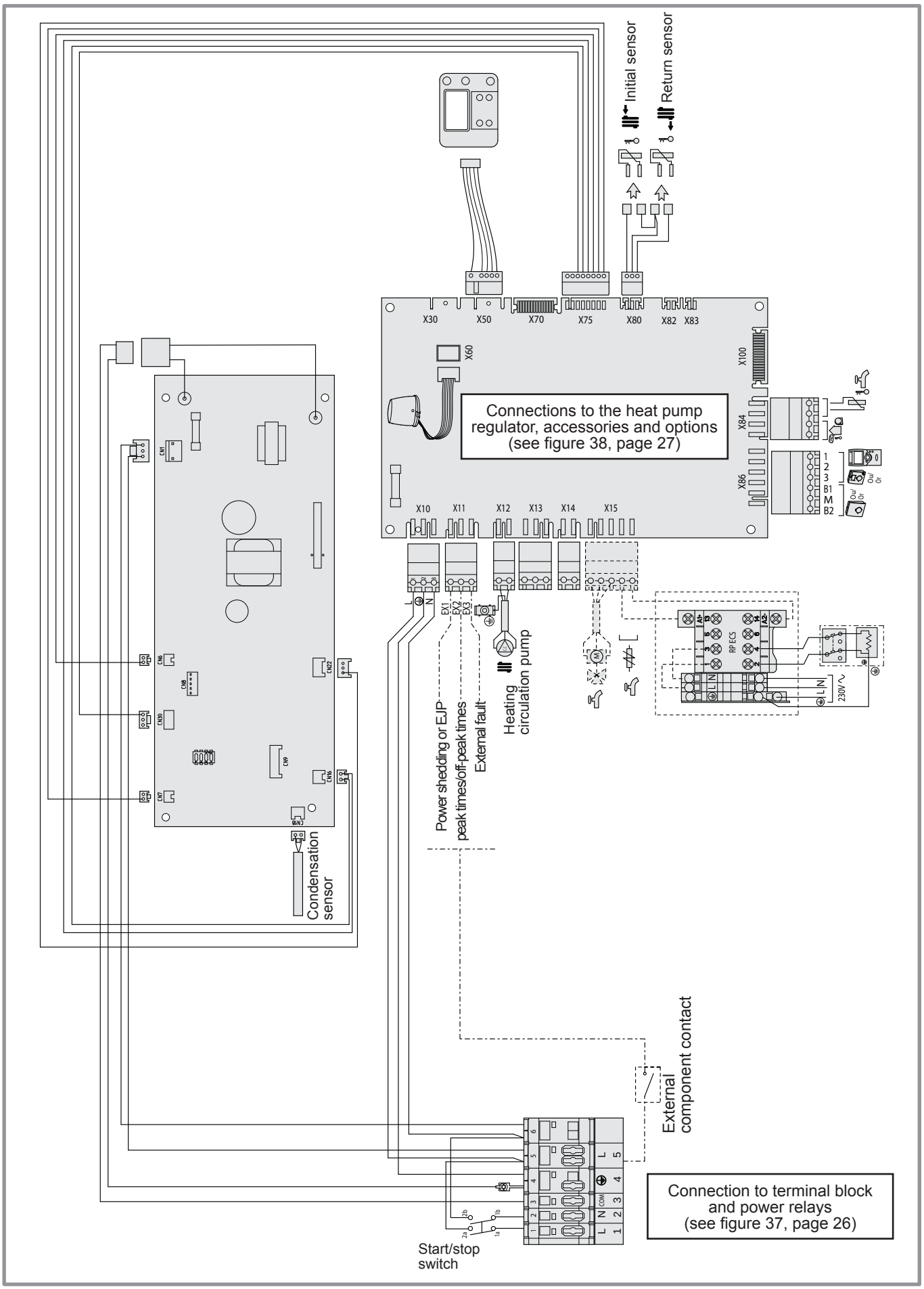


figure 39 - Electrical wiring Hydraulic unit (Except installer's connections)

6 Troubleshooting

Depending on whether the fault comes from the outdoor unit or the hydraulic unit, the fault may be indicated by the digital display or the diode on the interface cards.

6.1 Faults displayed on the hydraulic unit

Faults or breakdowns on the hydraulic unit are indicated by the display on the user interface.

The display shows the "Bell" symbol.

Press the Info key (i) for more details on the origin of the fault.

When the error has been resolved, the faults are re-initialised at zero automatically.

Hydraulic unit : Fault visible on the digital display.

Error number	*Error contents*	*Error location*	*Heat pump operation despite the error*
-	No connection.	Failure to comply with room thermostat's polarity.	No
0	No fault.		Yes
10	Outdoor sensor.	B9 (X84)	Yes
33	HP initial temperature sensor error.	B21 (X80)	Yes
44	HP return temperature sensor error.	B71 (X80)	Yes
50	DHW temperature sensor.	B3	Yes
60	Room thermostat 1.		Yes
105	Maintenance message .		Yes
121	Flow temperature for HC1 not reached.		Yes
127	Anti-legionella temperature not reached.		Yes
332	BX3 without function.	B3	
369	External fault (Safety component).		No
370	Outdoor unit error (In the start phase, see the para. “Start-up”).	See below & page 49.	No

Hydraulic unit : Flashing of the diode visible on the interface card.

Diodes display		*Error contents*
LED 2 (green)	*LED 1 (red)*	
1 Flash	1 Flash	Communication error between Hydraulic unit and Outdoor unit.
4 Flashes	1 Flash	Heat pump capacity signal error (Open or short).
4 Flashes	2 Flashes	Hydraulic unit heat-exchange thermistor Error.
6 Flashes	3 Flashes	Inverter error.
6 Flashes	4 Flashes	Active filter error / P.F.C. error.
7 Flashes	1 Flash	Discharge thermistor error.
7 Flashes	2 Flashes	Compressor thermistor error.
7 Flashes	3 Flashes	Heat-exchange thermistor outlet / intermediate error.
7 Flashes	4 Flashes	Outdoor thermistor error.
7 Flashes	7 Flashes	Heat sink thermistor inverter error / Heat sink thermistor P.F.C. error.
7 Flashes	8 Flashes	Expansion valve thermistor error.
8 Flashes	4 Flashes	Current sensor error.
8 Flashes	6 Flashes	Pressure sensor error / Pressure switch error.
9 Flashes	4 Flashes	Current trip.
9 Flashes	5 Flashes	Detection of compressor position error / Compressor start up error.
9 Flashes	7 Flashes	Outdoor unit fan motor error.
10 Flashes	1 Flashes	Discharge temperature protection.
10 Flashes	3 Flashes	Compressor temperature protection.
10 Flashes	5 Flashes	Low pressure abnormal.
Continuous flashing (1 sec On / 1 sec Off)		Pump down operation.
Continuous lighting	Off	Defrosting.

6.2 Faults displayed on the outdoor unit

To access the electronic board, you must remove the front (right-hand) facing from the outdoor unit.
Faults are coded by diode flashes.

Outdoor unit, model AOYA 18 LACL/LL (model Evolution 5 & 6), model AOYA 24 LACL/LL (model Evolution 8).

Diode display	*Erroneous element*
0,1 seconds lit & 0,1 seconds unlit.	Defective temperature sensor (see hydraulic unit).
0,5 seconds lit & 0,5 seconds unlit.	Abnormal intensity detector error.
2 seconds lit & 2 seconds unlit.	Electric current circuit breaker error.
5 seconds lit & 5 seconds unlit.	Defective fan motor.
0,1 seconds lit & 2 seconds unlit.	Position of the compressor's rotor not detected.
5 seconds lit & 0,1 seconds unlit.	Abnormal PAM circuit voltage.
1 second lit & 0,1 seconds unlit.	Timer cut off.
2 seconds lit & 5 seconds unlit.	Abnormal compressor temperature.
5 seconds lit & 2 seconds unlit.	Active filter error.
Continuous lighting.	Abnormal discharge temperature.

Outdoor unit, model AOYA 30 LBTL (model Evolution 10).

Diode display	*Erroneous element*
0,1 seconds lit & 0,1 seconds unlit.	Defective temperature sensor (see hydraulic unit).
0,5 seconds lit & 0,5 seconds unlit.	Defective IPM card.
2 seconds lit & 2 seconds unlit.	Electric current circuit breaker error.
5 seconds lit & 5 seconds unlit.	Defective fan motor.
0,1 seconds lit & 2 seconds unlit.	Position of the compressor's rotor not detected.
5 seconds lit & 0,1 seconds unlit.	Defective ACTPM card.
Continuous lighting.	Abnormal discharge temperature.

☞ **Ensure that the general electrical power supply has been cut off before starting any repair work.**

☞ **When the HP is not under tension, protection frost-free is not assured.**

7 Maintenance of the installation

Ensure that the general electrical power supply has been cut off before starting any repair work.

7.1 Hydraulic checks

☞ **Warning : If frequent refills are required it is essential that you look for any leaks.**
If filling and re-pressurization are required, check what type of fluid has been used initially.

Recommended filling pressure: 1 to 2 bar (Precise filling pressure is determined by the manometric height of the installation).

Each year,

- Check the expansion vessel pressure (precharge 1 bar) and the correct functioning of the safety valve.

If the installation is fitted with a DHW tank:

- Verify the safety unit on the cold water supply inlet. Make it work as prescribed by the manufacturer.
- Check the shut-off.

7.2 Checking the outdoor unit

- Dust off the heat exchanger if necessary, being careful not to damage the fins.
- Straighten the vanes using a comb.
- Check that there is nothing obstructing the passage of air.
- Check the fan.
- Verify that condensate drain is not obstructed.

• Checking the refrigeration circuit

When the refrigerant charge is in excess of 2kg (model 10) it is compulsory to have an approved after sales service check the refrigeration circuit every year (with a certificate of capacity for the handling of refrigerants).

- Check the lack of leak (connections, valves…).

7.3 Electrical checks

- Check connections and possible tightening.
- Check the cables condition and electronic boards.

8 Maintenance

8.1 Emptying the hydraulic unit

- Remove the facade from the hydraulic unit.
- Open the emptying valve,
- Open the hydraulic unit's manual bleed-tap
- Open the installation bleed tap.

8.2 Distribution valve

If the installation is fitted with a DHW tank.

Carefully comply with the direction for fitting the distribution valve.

Channel **AB** : Inlet from the hydraulic unit .

Open channel **A** : Outlet to DHW tank.

Open channel **B** : Outlet to the heating circuit.

9 Instructions for the user

Explain to the user how his installation operates, in particular the functions of the room thermostat and the programmes accessible to him from the user interface.

Emphasise that a heated floor has significant inertia and that therefore any adjustments must be made progressively.

Also explain to the user how to check the filling of the heating circuit.

10 Quick-start procedure

Before switching on the hydraulic unit :

- Check the electric wiring.
- Check the refrigeration circuit and make sure the gas supply has been performed.
- Check the pressure of the hydraulic circuit (1-2 bar), check that the heat pump is purged, and the rest of the installation.

10.1 Start-up check-list

10.1.1 Before starting-up

• Sight checks

Outdoor unit (please refer to section "Installation of the outdoor unit" page 12).	OK	Non compliant	
Location and fittings, condensate evacuation.			
Compliance with distances from obstacles.			

• Hydraulic checks

Hydraulic unit (please refer to section "Installing the hydraulic unit" page 15).	OK	Non compliant	Value
Connection of pipes, valves and pumps (circuits, DHW).			
Installation water volume (expansion vessel of adequate capacity ?).			
No leaks.			
Main system pressure and degassing.			

• Refrigeration connections and checks

(please refer to section "Refrigeration connections" page 16 et "Filling the installation with gas" page 19).	OK	Non compliant	
Refrigerant circuits control (Sealing respected, no dust and moisture)			
Connections between units (pipe length, flare tightening torque...).			
Installation of HP, LP pressure switches on "Gas" line (large pipe).			
Pump down required.			
Nitrogen leak test (~ 10 bar).			
Opening of refrigeration valves to outdoor unit.			
Refrigerant filling of hydraulic unit and pipes.			

• Electrical checks

Outdoor unit (please refer to section "Electrical connections" page 22).	OK	Non compliant	Value
Main power supply 230v .			
Protection by rated circuit breaker.			
Cable section.			
Earth connection.			

Hydraulic unit (please refer to section "Electrical connections on the hydraulic unit side" page 25).	OK	Non compliant	
Connection with outdoor unit (L, N + Eath).			
Sensors connection (positioning and connections).			
3 way valve and circulators connections.			
Power supply and protection of electric auxiliary (option).			

10.1.2 Starting-up

• Switching On

(please refer to section "Start-up" page 28 & "List of function lines (settings, diagnosis, status)", page 36).	OK	Non compliant	
Engage the installation's main circuit breaker (power supply to the outdoor unit) **2 hours before starting up the tests** => Preheating of the compressor.			
Turn ON the start/stop switch => Initialisation for a few seconds.			
Operation of the circulation pumps.			
Outdoor unit starts after 4 mins.			
Configure the hydraulic circuit (setting 90).			
Time, Date and time programs for HC1, (HC2), if different than default values.			
Ajust the heating curve slope (66).			
Adjust the maximum start setting (70).			

• Outdoor unit checks

	OK	Non compliant	Value
Operation of fan(s), compressor.			
Current measurement.			
After a few minutes, measurement of air temp. delta.			
Check condensation and evaporation pressure / temperature.			

• Hydraulic unit checks

	OK	Non compliant	Value
After 15 mins of operation.			
Primary water temp. delta.			
Operation of heating, mixing valve, boiler backup, …			

• Room control

(please refer to section "Configuring room thermostat" page 28).	OK	Non compliant	
Settings, manipulations, checks.			
Set the scheduled periods for heating (58 to 64).			
Adjust the heating circuit setpoints if different than default values (reduced setpoint : 65).			
Setpoint display.			
Explanations on use.			

The heat pump is ready for operation !

10.2 Settings sheet

Parameter	*Designation*	*Set to*
Preliminary settings		
50	Hours / minutes	
51	Day / Month	
52	Year	
90	Installation configuration	
Heating circuit		
65	Reduced setpoint	
66	Heating curve slope	
70	Flow temp. setpoint maxi	
73	Room influence	
58 to 64	Time programs HCs	
Domestic hot water (DHW) (if DHW kit)		
82	Reduced DHW temp. setpoint	
83	DHW release	
84	Legionella cycle	
85	Electrical resistance release	
75 to 81	Heating time programme	
Boiler connection		
88	Outside temp. at which device can cut in	
89	Overrun time	
Various		
94	Frost protection plant	
98 & 99	Inputs / outputs test	
Faults (if a fault occurs, press "Info" key)		
N° 10	Outdoor sensor	
N° 33	flow temp. Sensor	
N° 44	return temp. Sensor	
N° 50	DHW temperature sensor	
N° 60	Room thermostat 1	
N° 105	Maintenance message	
N° 121	Flow temp. for HC not reached	
N° 127	Anti-legionella temp. not reached	
N° 369	External fault (EX3)	
N° 370	Outdoor unit connection error	
Heat pump		
86	OT auth. to start elec. aux.	
87	Pk day clear (EX1) rel / lock	
Outdoor unit faults (see page 48)		

10.3 Start-up data sheet

Site		**Installer**	

Outdoor unit	Serial Nr.		**Hydraulic unit**	Serial Nr.	
	Model			Model	

Refrigerant type			Refrigerant charge	kg

Checks				**Operating voltage & current on outdoor unit**			
Compliance with positioning distances				L/N	V		
Condensate evacuation correct							
Electric connections / connections tightnees				L/T	V		
No GAS leaks (unit ID Nr. :)							
Installation of refrigeration connection correct (lenght : m)				N/T	V		
Reading in HEATING operating mode							
Compressor discharge temp.		°C		Icomp	A		
Liquid line temp.		°C					
Condensation temp.	HP = bar	°C	}	sub-cooling		°C	
Tank water output temp.		°C	}	ΔT condensation		°C	
Tank water input temp.		°C	}	ΔT secondary		°C	
Evaporation temp.	BP = bar	°C					
Suction temp.		°C	}	Overheating		°C	
Battery air input temp.		°C	}	ΔT evaporation		°C	
Battery air output temp.		°C	}	ΔT battery		°C	

Hydraulic system of hydraulic unit					
Secondary system	Floor heating system			Circulator brand	Type
	Low temp. radiator				
	Fan convector				
Domestic hot water ; tank type					
Estimated water volume of secondary system			L		

Options & Accessories :					
Power supply for connected electric auxiliary			Room thermostat T 37		
			Room thermostat T 55		
Location of room sensor correct			Wireless room thermostat T 58		
			Remote control T75		
DHW kit			Wireless remote control T78		
Boiler connection kit			Details		
Control settings					
Configuration type					
Essential settings					

Complies with :

- Low voltage directive 2006/95/EC, under standard EN 60335-1.
- Electromagnetic compatibility Diretive 2004/108/EC,
- Directive 2006/42/EC Machinery,
- Directive for pressurised equipment 97/23/EC.

This appliance also complies with:

- Decree No. 92-1271 (and its modifications) relating to certain refrigeration fluids used in refrigeration and air conditioning equipment.
- Regulation 842/2006 of the european parliament on certain fluorinated greenhouse gases
- The standards relating to the product and the testing methods used: Air-conditioners, refrigeration units and heat pumps with compressor driven by electric motor for heating and refrigeration EN 14511-1, 14511-2, 14511-3, and 14511-4
- To standard XP ENV 12102: Air-conditioners, heat pumps and dehumidifiers with compressor driven by electric motor. Measurement of airborne noise. Determination of acoustic power level.

This appliance is marked with this symbol. This means that electrical and electronic products shall not be mixed with general household waste.
European Community countries(*), Norway, Iceland and Liechtenstein should have a dedicated collection system for these products.
Do not try to dismantle the system yourself as this could have harmful effects on your health and on the environment.
The dismantling and treatment of refrigerant, oil and other parts must be done by a qualified installer in accordance with relevant local and national regulations.
This appliance must be treated at a specialized treatment facility for re-use, recycling and other forms of recovery and shall not be disposed of in the municipal waste stream.
Please contact the installer or local authority for more information.
* subject to the national law of each member state

Date of installation :

Contact of your heating technician or your after-sales service.

www.atlantic.fr
Société Industrielle de Chauffage
SATC - BP 64 - 59660 MERVILLE - FRANCE

RC Dunkerque - Siren 440 555 886
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